DOCUMENT RESUME

ED 070 840 VT 018 035

TITLE	Operation Pathfinder: Shaping Work Behavior of Ex-Offenders and Other Disadvantaged People Using Social Reinforcement Techniques. Final Report (September 1969-April 1972).
INSTITUTION	Mentec Corp.; Los Angeles, Calif.
SPONS AGENCY	Manpower Administration (DOL), Washington, D.C. Office of Research and Development.
PUB DATE	Apr 72
NOTE	98p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Adjustment (to Environment); Behavioral Counseling; *Behavior Change; *Delinquents; Demonstration Projects; *Disadvantaged Groups; Industrial Training; Job Development; *Manpower Development; Motivation; *Social Reinforcement; Supervisory Training; Work Attitudes; Work Environment
IDENTIFIERS	*Operation Pathfinder

ABSTRACT

Operation Pathfinder was a special manpower project designed to retrain behaviors of the disadvantaged and to establish positive motivations to work for a living through application of social reinforcement methodology. The project demonstrated that a positive reinforcing environment and properly structured work situation will provide a means of behavior modification for parolees and other disadvantaged persons. Program tasks included job development, training supervisors and counselors, counseling the hard-core trainees, and evaluating the effects of the reinforcement experimentation on the work behavior of the subjects. It was found that the application of social reinforcement to juvenile parolees and adult disadvantaged resulted in greater employment stability, better productivity, and less recidivism. As the key to job performance is supervision, the primary focus of the project was on the supervisor. Four manuals designed to aid supervisors in training disadvantaged employee groups were developed under this project, and are available as VT 018 031-018 034 in this issue. (MF)

ED 070840

Mentec Corporation

CORPORATE OFFICES

MENTEC BUILDING
5615 WEST PICO BOULEVARD
LOS ANGELES, CALIFORNIA 90019
TELEPHONE (213) 937-6500

VT018035

ED 070840

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

OPERATION PATHFINDER

Shaping Work Behavior of Ex-Offenders and Other Disadvantaged People Using Social Reinforcement Techniques

Final Report

September 1969 - April 1972

Submitted to:

Office of Research and Development

Manpower Administration

U.S. DEPARTMENT OF LABOR

By:

MENTEC CORPORATION

5615 West Pico Boulevard

Los Angeles, California 90019

Contract No.
82-05-70-05

April 1972

This report on a special manpower project was prepared by Mentec Corporation, Los Angeles, California, under Contract No. 82-05-70-05 with the Manpower Administration under the authority of the Manpower Development and Training Act of 1962, as amended. Organizations undertaking such projects under Government sponsorship are encouraged to express their judgements freely. Therefore, points of view or opinions stated in this document do not necessarily represent the official position or policy of the Department of Labor.

STANDARD TITLE PAGE FOR TECHNICAL REPORTS	1. Report No. DLMA 82-05-70-05	2. Govt. Accession No.	3. Recipient's Catalog No.

4. Title and Subtitle Operation Pathfinder - Shaping Work Behavior of Ex-Offenders and Other Disadvantaged People Using Social Reinforcement Techniques	5. Report Date April 1972 6. Performing Organization Code O.P. Phase IV
7. Author(s) Mentec Corporation S.S. Uslan, Project Director ETAL.	8. Performing Organization Rept. No.
9. Performing Organization Name and Address Mentec Corporation Mentec Building 5615 West Pico Boulevard Los Angeles, California 90019	10. Project/Task/Work Unit No. 11. Contract/Grant No. DL 82-05-70-05
12. Sponsoring Agency Name and Address U.S. Department of Labor Manpower Administration Office of Research and Development 1111 20th St., N.W. Washington, D.C. 20210	13. Type of Report & Period Covered Final Jun '69-Apr '72 14. Sponsoring Agency Code

15. Supplementary Notes

Final Report of Phase IV of a Four Phase Demonstration Project

16. Abstracts

This report documents results of a project which demonstrated application of behavior modification techniques to juvenile parolees and other hardcore disadvantaged. Industrial supervisors were trained to use these techniques, particularly social reinforcement, in shaping work habits and social behaviors of their subordinates. Methodology of acquiring subjects, placing them on jobs, training supervisors, counseling subjects and collecting data is reported. Experimental findings indicate that SR applied to parolees and adult disadvantaged by supervisors resulted in (1) longer job retention, and (2) less absenteeism and tardiness, (3) greater productivity and work quality, (4) fewer encounters with law enforcement, and (5) less recidivism than when SR was omitted.

17. Key Words and Document Analysis. 17a. Descriptors

Absenteeism
Ajustment (Psychology)
Attitudes
Business
Education
Employment
Ethnic Groups
Incentives (Psychology)
Industrial Management
Industrial Relations
Industrial Training
Job Analysis
Job Description
Job Satisfaction
Juvenile Delinquency
Leadership
Learning
Males
Management Training
Manpower
Manpower Utilization
Motivation
Negroes
Orientation(Training)
Performance
Performance Evaluation
Personality
Personnel
Personnel Development
Personnel Management
Personnel Selection
Placement
Productivity
Program Instruction
Psychological Guidance
Reinforcement
Specialized Training
Unskilled Workers
Verbal Behavior
Vocational Guidance

17b. Identifiers/Open-Ended Terms

OPERATION PATHFINDER

17c. COSATI Field/Group 5E, 5I, 5J, 5K, 6J

18. Distribution Statement	19. Security Class (This Report)	21. No. of Pages
Distribution is unlimited. Available from National Technical Information Service, Springfield Va., 22151.	UNCLASSIFIED	
	20. Security Class (This Page) UNCLASSIFIED	22. Price

FORM CFSTI-35 (4-70)

USCOMM-DC 65002-P70

TABLE OF CONTENTS

Chapter		Page
	FOREWORD	i
	STAFF	ii
I.	SUMMARY AND FACT SHEET	1
	A. INTRODUCTION	1
	B. BACKGROUND	1
	C. PLAN OF THE STUDY	2
	D. PROJECT ORGANIZATION	2
	E. RESULTS	4
	F. DISCUSSION AND RECOMMENDATIONS	5
	OPERATION PATHFINDER FACT SHEET	6
II.	BACKGROUND, OBJECTIVES AND PROGRAM DEVELOPMENT	9
	A. BACKGROUND	9
	B. SOCIAL REINFORCEMENT	10
	C. THE BIRTH OF OPERATION PATHFINDER	10
	D. INITIAL DESIGN AND OBJECTIVES OF THE PROJECT	10
	E. FINAL DESIGN AND OBJECTIVES OF THE PROJECT	12
	F. PROGRAM DEVELOPMENT	14

TABLE OF CONTENTS (Continued)

Chapter		Page
III.	PROGRAM TASKS	16
	A. DESIGN OVERALL EXPERIMENT	16
	B. ACQUIRE AND TRAIN COUNSELOR AIDES	17
	C. SOLICIT PARTICIPATION OF COMPANIES	17
	D. CONDUCT TECHNICAL ENVIRONMENT SURVEYS	17
	E. DEVELOP SUPERVISOR TRAINING CURRICULA	18
	F. CONDUCT SUPERVISOR TRAINING SEMINARS	19
	G. PLACE SUBJECTS IN JOBS	19
	H. COUNSEL AND MONITOR SUBJECTS	19
	I. COLLECT JOB RETENTION AND LEGAL COMPLIANCE DATA	20
	J. ANALYZE DATA AND REPORT FINDINGS	20
IV.	SELECTION AND TRAINING OF COUNSELOR AIDES	21
	A. PURPOSE OF AIDES	21
	B. SELECTION CRITERIA	21
	C. SCREENING	22
	D. TRAINING	23
	E. BRIEF HISTORY OF THE AIDES	25

TABLE OF CONTENTS (continued)

Chapter		Page
V.	JOB DEVELOPMENT	28
	A. COMPANY SELECTION CRITERIA	28
	B. PUBLICIZING PATHFINDER	29
	C. INITIAL CONTACTS WITH BUSINESS FIRMS	29
	D. INROADS	31
	E. NAB/JOBS CONTRACTS	32
	F. RESULTS	33
VI.	EXPERIMENTAL FINDINGS	34
	A. INTRODUCTION	34
	B. SUBJECTS	35
	C. VARIABLES MEASURED	36
	D. PARTICIPATING COMPANIES AND JOB DESCRIPTIONS	36
	E. RESULTS	38
	F. DISCUSSION	45
VII.	CONCLUSIONS AND RECOMMENDATIONS	48
	A. ON THE VALIDITY AND UTILITY OF BEHAVIOR MODIFICATION THEORY	48
	B. THE PRIMARY FOCUS OF ATTENTION	49
	C. RECOMMENDATIONS	50

TABLE OF CONTENTS (Continued)

Chapter		Page
REFERENCES		53
APPENDIX A	BEHAVIOR MODIFICATION THEORY	A-1
APPENDIX B	COUNSELOR AIDE TRAINING OUTLINE	B-1
APPENDIX C	STATISTICAL TESTS OF THE DATA	C-1

LIST OF TABLES

		Page
Table 1	Mean Proportions of Months Worked to Total Number of Months Available for Work	38
Table 2	Number of Jobs Held per Group	39
Table 3	Number and Percent of Subjects Reverting Back to Jail or CYA	40
Table C-1	Summary Table of Mann-Whitney U Test Z Scores of Differences Between Groups with Respect to Percent Time Holding a Job (Multiple Jobs Included)	C-1
Table C-2	Summary Table of Mann-Whitney U Test Z Scores of Differences Between Groups with Respect to Percent Time Holding a Job (Multiple Jobs Excluded)	C-2
Table C-3	X^2 Test of Differences Between Groups with Respect to Number of Jobs	C-3
Table C-4	X^2 Test of Differences Between Groups with Respect to Numbers of Jobs	C-4

LIST OF FIGURES

		Page
Figure 1	Average Group Performance on Selected Variables	41
Figure 2	Production Performance of a Control Subject and a Group C-S Subject During the First 30 Days on the Job. (Gaps in the Curves Represent Weekends.)	43
Figure 3	Supervisor Judgment of Quality of Work Performed by a Group S Subject and a Control Subject During the First 30 Days on the Job.	44

FOREWORD

A major problem in society is the growing number of young people who are being released from correctional institutions without the benefit of vocational training or occupational planning. Failure to provide meaningful jobs for this group has contributed significantly to the high crime rate and parole failure.

Kin to the juvenile parolee is the young disadvantaged person who by matter of fate has escaped the label of delinquent or offender. Yet, the two often carry the same burden of inadequate education, poor job habits, inadequate skills, and low self-esteem. When given job opportunities many fail to adjust properly to the work environment and are involuntarily terminated after a short period of time. Perhaps more pathetic are those who give up their jobs because of fear, frustration, and bewilderment.

Operation Pathfinder was a project designed to determine what happens when transition to the world of work from the institutions and from the streets are facilitated, in this case, by providing a positively reinforcing social environment on the first day and thereafter.

Our results have been most gratifying and support the idea that a properly structured work situation will provide the means by which a person with a general anti-social behavior can learn new behaviors and form new attitudes.

The results definitely do not support the notion that the hardcore, which includes the juvenile parolee, are generally unemployable.

Moreover, the techniques employed in reshaping the behaviors of the experimental subjects are simple to learn, easy to use, and require no monetary costs aside from the initial training of the employer's supervisors.

Much needs to be learned about this exciting new supervisory tool called "Social Reinforcement." We cannot recommend too strongly, therefore, further exploration of behavior modification applications to industry as well as the public sector as a means for resolving the employment and social reintegration and adaptation problems of the ex-offender.

The reader is encouraged to review companion documents to this report which comprise a training system suitable for implementation of the techniques and procedures by independent employers. These documents are available from the U.S. Department of Labor, Manpower Administration, Office of Research and Development Programs, Washington, D.C., and are entitled:

"Job/Behavioral Analysis Manual"

"How to Train Supervisors in Behavior Modification"

"Supervisory Workbook in Behavior Modification"

"How to Maintain a Social Reinforcement Program"

OPERATION PATHFINDER STAFF*

S. Stephen Uslan	Project Director
Sol Swack	Industrial Engineer
Russell L. Smith	Industrial Psychologist
Ronald Arkin	Supervisor Trainer
Nina Jones	Research Associate
Pamela Krochalk	Research Associate
Raymond Loftin	Counseling Supervisor
Martin J. Molof	Senior Research Psychologist
Joseph Peebles	Senior Counselor and Job Developer
J. Arthur Waites	Behavioral Scientist
Jay Weinstein	Employment Program Director
Douglas Basacker	Counselor Aide
Willie Buycks	Counselor Aide
Arthur Gonzales	Counselor Aide
William McAlister	Counselor Aide
Ralph Moore	Counselor Aide
Andrew Ortega	Counselor Aide
Jeanette Dudley	Secretary
Lillian Schweitzer	Secretary

Al Cox	Parole Agent, CYA
John C. Russell	Parole Agent, CYA (liason officer between CYA, Parole Units and Mentec)

CONSULTANTS

Dr. Carl Jesness	American Institute for Criminal Justice
Dr. Robert Schwitzgabel	Claremont College
Donald Rosen	Attorney at Law
Jack Solomon	Community Relations Consultant
Paul DeVan	Counseling Systems Consultant

*This list includes individuals who contributed significantly to the project. Most were not on the staff simultaneously.

SECTION I.

SUMMARY AND FACT SHEET

I. SUMMARY AND FACT SHEET

A. INTRODUCTION

Operation Pathfinder (OP) was a project designed to determine the utility and feasibility of applying behavior modification techniques to juvenile parolees and other hardcore disadvantaged on the job. The objectives were to reduce recidivism among parolees and to increase the degree to which both groups develop positive, job oriented behaviors.

The project was conceived in February 1969 and given a three-month contract in June 1969 by the Office of Special Manpower Programs, U.S. Department of Labor, to design a three-year investigation. Subsequently, the project was initiated in September 1969 and ended in April 1972.

B. BACKGROUND

Considerable evidence suggested that recidivism among parolees and job losses by parolees and other hardcore disadvantaged were primarily due to (1) on-the-job behaviors that were incompatible with the effective operation of industrial social systems, and (2) the general inability and/or lack of desire of supervisors to cope with such behaviors in a significant way. It was apparent that unless the industrial system was willing to make the first move, i.e., instigate a meaningful program for positively modifying the behaviors of the parolee, recidivism and job loss would be possibly perpetuated indefinitely.

It was believed that supervisors could be trained to apply relatively simple and well-established behavior modification techniques to hardcore employees. Such techniques emphasize the use of social reinforcement (SR), in contrast with monetary or other material rewards, as the primary basis for reshaping unwanted behavior patterns. SR consists of all verbal and non-verbal responses which indicate approval of an employee's behavior. It was believed that systematic and differential application of SR would strengthen wanted or desirable behaviors and weaken unwanted or undesirable behaviors.

Positive and practical consequences resulting from OP would provide evidence that a relatively inexpensive method could be used on a wide scale basis for reducing juvenile crime and welfare costs.

C. PLAN OF THE STUDY

Phase I of OP consisted of a three-month study resulting in a planned, three-year developmental/experimental design. Phase II included the (1) development of staff, (2) acquisition of relevant literature (3) development of concepts, procedures and data collection instruments, (4) placement of juvenile parolees on jobs, (5) training of supervisors, (6) development of experimental and control groups, and (7) initiation of data collection.

Phase III involved a continuation of Phase II efforts, but the objectives and experimental design were expanded to include (1) the disadvantaged adult population as subjects, and (2) the initiation of a longitudinal experimental investigation.

Phase IV of the project was eight months long and directed staff attention to final data collection, placement on jobs of the counselor-aides, phase out staff and write the final report.

D. PROJECT ORGANIZATION

1. Job Development

Four identifiable groups of personnel comprised the project staff. These groups provided specific expertise in (1) job development, (2) training and counseling of supervisors, (3) counseling of hardcore trainees, and (4) behavioral experimentation.

Two full-time job developers were employed to solicit companies for participation in OP. Criteria for participation included (1) the hiring of hardcore disadvantaged under NAB/JOBS contracts, (2) permitting supervisors to attend behavior modification training seminars, (3) permitting OP counselors to counsel hardcore employees on the job, and (4) providing personnel files on past and current employees for the collection of data.

2. Counseling

Two full-time professional counselors and seven counselor aides were employed for the training of supervisors and the counseling of hardcore subjects. The counselor aides were male parolees from the California

Youth Authority (CYA) who were trained as paraprofessionals in personnel counseling. Counselors contacted new releasees from a monthly listing from CYA, and those without jobs but seeking employment were asked to participate in OP. Counseling procedures were as follows:

- Initial contact with the parolee to determine interest in participating in OP.
- Certification by State Employment Service as disadvantaged.
- Orientation to the "world of work."
- Arranging job interviews and transportation to and from interviews.
- Off-the-job counseling (problems with arrests, incarcerations, court hearings, finances, living accommodations, peer group affiliations, and transportation).
- On-the-job counseling (problems with work behaviors, absenteeism, tardiness, quantity and quality of work).
- Follow-up on individuals terminating from OP.

Counselors had the responsibility of maintaining records for purposes of research and analysis. Such records included intake interviews, individual contact logs, and special events reports (e.g., police encounters, incarcerations, court appearances, family problems, etc.).

3. Training Supervisors

The counselors also had the responsibility of conducting supervisor training seminars in behavior modification. Training consisted of 16 hours of training in which, among other things, supervisors were taught to apply SR techniques for purposes of developing wanted or desirable work behaviors and eliminating unwanted or undesirable behaviors. Counselors regularly visited supervisors to reinforce their use of SR and, when necessary and possible, to resolve work problems related to the behaviors of hardcore subjects.

4. Behavioral Experimentation

Three full-time behavioral research and data analysis personnel were employed to test and evaluate the effects of administering SR on the work behaviors of hardcore subjects. They were responsible for (1) developing experimental designs capable of yielding verifying data, (2) developing data collection instruments and procedures, and (3) analyzing and interpreting such data. Measures of job performance included (1) quality of work, (2) rate of production, (3) incidents of lost time (absenteeism, tardiness and early departure), (4) kinds and frequency of accidents, (5) terminations, (6) reasons for terminations, and (7) number of months holding a job.

The experiment consisted of one comparative, control group and four experimental groups. Three of the experimental groups were composed of juvenile parolees and differed in terms of the type and degree of SR administered to them. One group was given SR continuously by supervisors and counselors trained in the theory and application of behavior modification. A second group was given SR only by supervisors and the third group was given SR only by counselors. A fourth experimental group was composed of disadvantaged adults and SR was administered to them by trained supervisors.

A total of 200 experimental and 37 control subjects participated in the experiment which had a duration of 24 months.

E. RESULTS

It was found that all experimental groups (1) retained their initial jobs for a longer period of time, (2) had a longer period of employment in general, (3) had fewer arrests, incarcerations and parole revocations, (4) had less absenteeism and tardiness, and (5) had higher productivity and quality of work than the control group. The performance of disadvantaged adults and the two groups of parolees having SR by supervisors were particularly outstanding. The parolee group having SR by counselors only showed a modest, though significant, improvement over control subjects.

At the end of the data collection period, 156 experimental subjects (78 percent) were still employed, 12 as long as 24 months. Of the 44 subjects which terminated their jobs (28 juveniles and 16 adults), 16 adults left the county, 15 juveniles returned to school, three juveniles are in jail, two juveniles have returned to CYA custody, and the whereabouts of the remaining eight subjects is unknown.

F. DISCUSSION AND RECOMMENDATIONS

A problem of considerable importance was the delays involved in processing NAB/JOBS contracts. It appeared that acceptance of the proposals, prepared by highly experienced project staff, by the Regional Manpower Administration staff were subject to the descretion of the reader. Where one proposal would be accepted and funded within a few weeks, another would be rejected on the basis that the proposal was too wordy and should be edited. Often, the response to proposals would necessitate frequent meetings, rewrites, and delays which added to the frustrations of employers, project staff, and those waiting to be hired.

While the results obtained suggest that OP's supportive services "package" can effectively modify the behaviors of hardcore individuals, OP has accomplished more than demonstrate the significance of such services. The project also demonstrated the need for bridges between the correctional institutions and employers, between the community and jobs, and the need for a buffer between law enforcement agencies and the ex-offender.

Nearly everyone is aware of the fact that industrial line supervisors tend to control their employees' behaviors by autocratic means. For the most part, management apparently assumes such methods are the only practical ways to maintain or improve company productivity and reduce costs. Nearly everyone is also aware of the fact that few people enjoy working for an autocratic supervisor. It tends to follow; therefore, that control tempered by a sensitivity to employees' needs and by a socially rewarding supervisor should increase employees' motivation to perform as desired. The results of OP's experimental demonstration provide evidence that such is the case.

As with behavioral experimentation in general, particularly field experiments, considerable research should be performed before new techniques are placed into widespread use. Much more needs to be learned regarding the variations in applying SR within industry and their specific short and long-term effects. In this respect, it is highly recommended that a thorough, longitudinal study be implemented across a large number of industrial firms using on-the-job employees as subjects. Such a program would be relatively inexpensive in contrast to OP which consumed considerable time and effort attempting to develop jobs for parolees and other hardcore disadvantaged. It is believed that the results of OP more than warrant such a study.

OPERATION PATHFINDER FACT SHEET

Funding Agency:	Manpower Administration, U.S. Department of Labor, Office of Research and Development
Research Agency:	Mentec Corporation, Los Angeles, California
Starting Date:	September 1, 1969
Completion Date:	April 30, 1972
Program Description:	A demonstration investigation of the application of behavioral modification techniques to hardcore disadvantaged on the job for purposes of developing motivation and work-oriented behaviors
Area of Operation:	Los Angeles, California

Subjects - Parolees

Number of Experimental Subjects	136
Number of Control Subjects	37
Number placed on jobs by OP	108
Number placed on jobs by other source, e.g., CYA parole agent, CONTACT Agency, self	28
Number arrested	51
Number jailed	14
Number returned to the institution (recidivists)	5
Number of additional parolees receiving services from OP, e.g. employment preparation, referral to other agencies (not experimental subjects)	169

OPERATION PATHFINDER FACT SHEET
(Continued)

Subjects - Hardcore Disadvantaged

Total number of Experimental Subjects	64
Number of additional hardcore disadvantaged receiving services from OP, e.g. employment preparation, referral to other agencies (Not experimental subjects)	85

Job Development Activities

From September 1969 to December 1971 a total of 1141 business firms were informed about OP. This number is composed of the following categories:

Brochures mailed	1141
Telephone contacts	571
Invitations to discuss OP	103
Firms offering job pledges	72
Number of job pledges	461
Number of firms offering real jobs	32
Number of jobs filled	395
Number of firms accepting total OP program	14

Supervisory Training Activities

Number of workshops	17
Number of companies participating in workshops	17
Number of supervisors participating in workshops	108

OPERATION PATHFINDER FACT SHEET
(Continued)

Persons Receiving Benefits (Direct and Indirect) from OP	
Parolees receiving direct services	369
Hardcore disadvantaged receiving direct services	149
Other employees receiving indirect benefits as a result of supervisors' participation in OP workshops	3620
Ex-offenders referred to OP by CONTACT for counseling	106

SECTION II

BACKGROUND, OBJECTIVES AND PROGRAM DEVELOPMENT

II. BACKGROUND, OBJECTIVES AND PROGRAM DEVELOPMENT

A. BACKGROUND

Operation Pathfinder (OP) was conceived in February 1969 following an analysis of data collected under two federally funded programs. These programs involved our participation as (1) technical consultants to the National Alliance of Businessmen (NAB), and (2) evaluators of the Manpower Administration's MA-1 and Test programs (Mentec Corporation, 1969abc). Each program was directed toward disadvantaged or hardcore individuals and attempted to place them in training programs and on jobs.

Analyses of these programs revealed several interesting facts: (1) the NAB/Job Opportunities in the Business Sector (JOBS) program was well received by the businessman, as indicated by the placement of 100,000 individuals on jobs within six months; (2) although the hardcore were acquiring jobs, a significant number (45 percent) lost these jobs within a short period of time; (3) many individuals were losing their jobs because of job-related behavioral problems; and (4) the ex-offender, especially the juvenile parolee, was not being hired. It was concluded that job losses might be reduced considerably if the hardcore were specially treated by supervisors. Such treatment was conceived as being the application of well-established behavior modification techniques, emphasizing the systematic use of social reinforcement (SR), i.e., verbal and non-verbal approval of wanted or desirable behaviors. (See Appendix A for a theoretical discussion on behavior modification.) In effect, supervisors would be trained to use these techniques and attempts to build behavior patterns conducive to job retention would occur on the first day of an individual's employment.

It was decided that the concept of applying behavior modification techniques within the industrial environment could be evaluated by undertaking a demonstration project with the following features: (1) the NAB/JOBS program would be the employment vehicle; (2) juvenile parolees would be the experimental and control subjects; and (3) special emphasis would be given to testing the notion that SR can be effectively used by supervisors for developing good work habits and a general desire to remain employed. Juvenile parolees, of course, are characterized by their demonstration of anti-work and anti-social behaviors.

Discussions with the California Youth Authority (CYA) revealed that juvenile parolees experience considerable difficulties in finding jobs, even though their parole agents, friends, and families presumably assist them.

Further discussions with the Los Angeles NAB office and the local HRD office (State Employment) failed to provide evidence that parolees were either being placed on jobs in any significant numbers or receiving any special help. It is not very surprising, therefore, that 60 percent of juvenile parolees commit criminal acts within six months after release, resulting in additional recidivism. When comparisons were made between juvenile parolees and other hardcore non-parolees of the same age who were competing for jobs, it became evident that if the hardcore had an inner-core, it would be made up of parolees.

B. SOCIAL REINFORCEMENT

Modifying behavior through the use of SR, i.e., the shaping of an individual's behavior through selective and systematic use of verbal and non-verbal gestures of approval, represented the basic theoretical structure for the project. As is discussed in detail in the Appendix, SR provided for the satisfaction of two of three primary human needs, while money or its equivalent satisfied the third. SR should not be viewed, therefore, as a kind of minor or modest reward for the emitting of good behaviors.

Targets for implementing SR were private businesses and their management systems, particularly the line supervisors. Supervisors were to be trained to utilize SR effectively when interacting with workers.

C. THE BIRTH OF OPERATION PATHFINDER

It seemed evident that a great need existed for a demonstration program which would (1) lend insight into the problems of juvenile parolee employment, and (2) seek ways to find and help them retain jobs. OP was therefore proposed as such a project to the Office of Special Manpower Programs (OSMP)[1], Manpower Administration, U.S. Department of Labor.

D. INITIAL DESIGN AND OBJECTIVES OF THE PROJECT

1. Design

In designing Operation Pathfinder, emphasis was originally placed on testing the results of the modification of a juvenile ex-offender's social behavior by how well he performs on a job. Some of the desired behavioral

---

1. The OSMP is now incorporated into the Office of Research and Development (ORD).

changes sought were fewer incidences of confrontation with the law, fewer parole revocations (recidivism), job retention, promotion on the job, improved living conditions, social stability, and parole discharge. Attention was centered on juvenile parolees because they presented behavioral patterns that were clearly out of step with society. It was our contention that if their social behavior could be modified through a job setting, certainly people with lesser behavioral problems should also benefit from the same approach.

To evaluate the effects of the application of behavior modification, one experimental and two control groups were to be formed. Parolees were to be randomly distributed among the experimental group and one control group with certain constraints, such as the requirement that both of these groups be demographically similar. A second control group was to be formed of similar young men but without a history of state institutional commitment. This latter group would allow a determination of the broader implications of behavior modification to industry.

Of course, behavior modification was to be applied only to subjects in the single experimental group. Two hundred and 700 subjects were to be assigned to the experimental and control groups, respectively.

It was also our belief that there would be great value in using individuals with histories of institutionalization as change agents or models. Seven young men were to be selected, therefore, from those released on parole from the California Youth Authority. These men were to be trained as aides to Mentec's senior counselors and were to interact with, counsel and reinforce the experimental subjects through their own communication styles.

While the project was technically a field experiment, it was specifically designed to provide guidelines for aiding manpower programs concerned with unskilled and disadvantaged people. However, additional discussions with representatives of the Manpower Administration, CYA, HRD, NAB, and a review of the current literature on parolee employment and recidivism led to the decision to incorporate a more extensive array of theoretical and experimental considerations in the design. That is, the project would test and evaluate current theory of behavior modification as it is applied to parolees in the industrial environment. Thus, Operation Pathfinder was designed and a test of its utility and feasibility was the obvious next step.

2. Objectives

The following objectives were established:

- To determine whether parolees on NAB/JOBS receiving SR treatment would demonstrate lower recidivism rates, higher job retention rates and higher personal wages than parolees who were not on NAB/JOBS and who did not receive SR treatment.

- To determine whether the retention rate for juvenile parolees NAB/JOBS training situations is significantly different from the retention rate among NAB/JOBS trainees without a history of state institutional commitment.

- To determine whether the application of SR in the supportive services provided to business participants in NAB/JOBS programs is more effective in training and retaining juvenile parolees than are other supportive services approaches available to the business firms under NAB/JOBS contracts.

- To determine whether selected juvenile parolees can function in entry level training positions as personnel counselors in business and industry.

E. FINAL DESIGN AND OBJECTIVES OF THE PROJECT

1. Design

During Phase II of the project (essentially the first year), certain events failed to take place as expected and others did take place necessitating changes to the original design. First, the Los Angeles office of the National Alliance of Businessmen was not able to provide us with job opening leads. Second, the local economy and employment opportunities declined. Third, employers balked at hiring only juvenile parolees under an Operation Pathfinder developed NAB/JOBS program. Finally, the control group was physically difficult to identify and track in the manner prescribed and in the numbers envisioned.

The National Alliance of Businessmens JOBS program was considered an integral part of the Operation Pathfinder design. We considered the Supportive Service portion of the JOBS contract to be a natural vehicle to test the effects of Social Reinforcement. With some minor changes to the mix of the usual services offered under the JOBS umbrella the full realm of SR treatments could be introduced. We also hypothesized that the juvenile parolee could be successfully employed and trained by the JOBS program and if that was successfully demonstrated, the NAB would have a model to use for national replicability. Unfortunately, the local chapter of the NAB believed it would not be in their best interests to supply job leads to a private organization

who was seeking to serve only a special interest group. This decision which was made months after the original committment was given to assist the project with job leads, necessitated the addition of two staff members to locate jobs for our experimental group.

No problem was more serious in the early stages to the project than an employment downturn in Los Angeles. With many well-trained, skilled people being laid off, job placement opportunities for juvenile parolees became increasingly scarce. The fact that a person with a parolee label has difficulty finding employment was no more exemplified than employer reactions to our solicitation during the 1970 economic recession. Such a youngster was truly an "untouchable."

During the process of corresponding with more than 1141 business firms, it became clear that employers were truly resistive to participating in the project because of our design restrictions that they hire up to ten juvenile parolees and that our supportive services would be limited to only that group. A significant problem emerged for employers who agreed to participate under a JOBS contract and wanted to hire more than ten disadvantaged people. In order to meet their contractual committment to provide the necessary supportive help, i.e., pre-job orientation, job related basic education, counseling, supervisory human relations training, and so-forth, to all those hired under their contract, another organization would need to be retained or staff employed to assist the non-juvenile parolee. Thus, either the project would serve all those hired or an employer would refuse to participate.

Subsequent discussions with the Project Manager and Associate Director (Mr. William Throckmorton and Mr. Seymour Brandwein, respectively) of the Office of Research and Development Programs resulted in the decision to expand the subject population with the proviso that the majority of those classified as experimental subjects be juvenile parolees. Thus, hardcore individuals who were not parolees would also be included in our design. Such a decision was more in keeping with the general interests of manpower programs. It was also believed that expanding the experimental population would provide interesting comparative data about the effects SR would have on shaping the behaviors of juvenile parollees and non-parolees.

2. Final Objectives

As a result of the foregoing considerations, final objectives were translated into the contract's statement of work:

- "Participants - The contractor will work with an experimental group of 200 male and female juvenile parolees, ex-offenders,

and other disadvantaged youth, age 18 and over, selected in cooperation with the California Human Resources Agency, and other Los Angeles agencies. Also, contractor will employ and train seven (7) parolees as counselor aides.

- "Selection and Recruiting - The contractor will select the experimental group of juvenile parolees, ex-offenders, and other hardcore disadvantaged, and arrange for their hiring. The contractor will provide the participants with pre-job behavioral training.

- "Measurement (Analysis and Assessment) - The contractor will measure the effectiveness of his social reinforcement techniques by (1) comparing the changes in participants' behavior in a job after receiving project services with baseline data gathered from prior employer experiences for the same job and (2) comparing the behavior of the experimental individuals or groups with similar individuals or groups in the same plant."

These objectives, while not substantially different from those originally conceived, gave the project greater flexibility to meet the needs of employers and of the population at large.

F. PROGRAM DEVELOPMENT

1. Synopsis of Work: Phases I and II

A three-month study contract was granted by OSMP in June 1969 and a subsequent three-year research plan was approved at the end of that period (Phase I). The second phase of the project (essentially the first year of operation) was devoted primarily to setting up the project and evaluating the reasonableness of the objectives. From September 1969 to August 1970, (1) staff members were hired and trained, (2) seven young men under a NAB/JOBS contract were selected and hired as counselor aides, (3) data collection instruments and procedures were developed, and (4) activities necessary to "selling" the project in the Los Angeles area were performed.

Operation Pathfinder did not meet all of its objectives during Phase II. As indicated earlier, difficulties in setting up a "process" from institution to job, problems involved in obtaining MA contracts through NAB/JOBS, and, primarily, an economic downturn in Los Angeles - all contributed to reducing progress toward desired goals. However, the project was operational and data collection began.

2. Phase III

Phase III of the project began in September 1970 and ended in August 1971. Job development activities, technical environment surveys, supervisory workshop curricula development, counseling, experimental data collection, and other associated tasks were performed.

3. Phase IV

Phase IV, an eight-month period, represented a continuation of Phase III and a completion of all requirements specified by the objectives of the project. The last of the required number of experimental subjects were placed on jobs and data were collected and analyzed. The present document constitutes a final report of findings.

Other documents were prepared as well, relating to (1) the behavioral analyses of industrial jobs, (2) teaching behavior modification to supervisors, (3) workbooks for supervisors during training, and (4) the maintenance of a social reinforcement program.

SECTION III

PROGRAM TASKS

III. PROGRAM TASKS

Operation Pathfinder consisted of a series of major tasks whose interdependencies required a specific sequential order. These tasks were:

- Design overall experiment
- Acquire and train counselor aides
- Solicit participation of companies
- Conduct technical environment surveys
- Develop supervisor training curricula
- Conduct supervisor training seminars
- Place subjects in jobs
- Counsel and monitor subjects
- Collect job retention and legal compliance data
- Analyze data and report findings

A. DESIGN OVERALL EXPERIMENT

From the beginning the purpose of Operation Pathfinder was to experimentally demonstrate the effects of SR on job retention and legal compliance of juvenile parolees. Such a demonstration necessitated the use of an experimental group and a comparative control group. During the course of the program a number of objectives were changed or modified due to various constraints that emerged. One change was the addition of hardcore disadvantaged to the subject population. Regardless of changes, however, it remained that the pool of subject would be primarily dichotomized into those subjected to behavior modification techniques and those receiving "standard" industrial treatment. Chapter VI discusses in detail the final experimental design and findings.

B. ACQUIRE AND TRAIN COUNSELOR AIDES

Counselor aides were drawn from the same population pool of parolees as those participating in the experiment. The purpose of counselor aides was to provide the project with appropriate liaisons between staff and experimental subjects. Retaining peers as counselor aides was considered ideal in the sense that they would have natural rapport with the subjects. However, it was obvious that if such aides were to counsel effectively, they would have to be trained in behavior modification and counseling techniques. Therefore, candidates for counselor aides were carefully screened for those who had relatively high potential for rapid learning and a strong likelihood of making significant contributions to the project.

The principal task of the aides was to help experimental subjects in whatever way possible to reduce or eliminate off-the-job problems that might interfere with or negatively influence on-the-job behavior. Such help also included the frequent use of social reinforcement.

Chapter IV is devoted to an elaboration of the selection, training and employment of counselor aides.

C. SOLICIT PARTICIPATION OF COMPANIES

Success of Operation Pathfinder was heavily dependent on the willingness of local industry to hire personnel heretofore considered undesirable. Job development, while essentially a support activity, assumed no less than a major task in the project. Chapter V summarizes the activities performed in this task and the problems encountered.

D. CONDUCT TECHNICAL ENVIRONMENT SURVEYS

Technical environment surveys of participating companies were performed, with special emphasis placed on the job-related behaviors required of employees and the environmental conditions within which the behaviors were to be exhibited. The purpose of these surveys was to (1) acquire an understanding of the total social-occupational setting in which subjects would be placed, (2) identify significant problem areas for which we could test and verify the effectiveness of our program, and most importantly, (3) provide data for translation into supervisor training curricula designed to be responsive to each employer's needs.

In our discussions with management staffs of the participating companies we stressed the importance of implementing Operation Pathfinder within the structure of the existing industrial systems. Accordingly, we did not recommend or suggest changes that dealt with salaries, incentives, promotions, policies, regulations, etc.

Strictly speaking, the technical surveys were not essential to the project. Training supervisors in the theory and application of behavior modification was not dependent on where the technique was to be applied. However, training and learning are always facilitated when curricula include relevant examples - when the instructor applies the technique to and within the context of specific work situations. For example, consider a work situation in which noise levels are such that it is difficult or impossible for two people to verbally communicate. Since social reinforcement clearly requires a means of communication, a supervisor must devise a mechanical way or select a time of day in which verbal interactions can occur both formally and informally. An instructor who is knowledgeable of the work environment and the types of jobs involved in a particular company can more readily and meaningfully tailor each training seminar to the unique conditions existing in that company. Thus, the knowledgeable instructor can suggest alternative ways of applying behavior modification techniques to situations which are not presently "designed" for their use.

A companion document to this report is entitled "Job/Behavioral Analysis Manual" and details the nature, procedures and desired consequences of technical surveys. The instructor who is relatively unknowledgeable of the jobs, environment and required behaviors within a company is encouraged to perform a technical survey as prescribed in this manual. At minimum, it should be used as a checklist to guarantee relevancy and impact of examples, problems and their solutions within training seminar curricula.

E. DEVELOP SUPERVISOR TRAINING CURRICULA

As implied in the foregoing, a basic training curricula was developed but modified slightly for supervisors of different companies or of different departments within the same company. A second companion document to this report entitled, "Supervisory Workshop in Behavior Modification" delineates the basic curriculum, and the trainer is encouraged to carry out a technical survey in order to tailor this curriculum accordingly.

F. CONDUCT SUPERVISOR TRAINING SEMINARS

The success of a training program depends on (1) the validity and utility of the knowledge presented, (2) the capability of the instructor to adequately communicate that knowledge, and (3) the willingness of the trainees to apply such knowledge. Obviously, no such program would be viable if any of these criteria were not met, particularly criteria (1) and (3).

For the most part, supervisors of each succeeding company entering the Pathfinder program represented something of a challenge to the established training workshop. The type of work performed at a given company, the educational levels of supervisors, and the personalities (for example, tendencies toward extroversion or introversion) of the supervisors all provided unique data gathering and communication problems. As a result, the training curricula and method of teaching were continuously modified and expanded during the course of the project to permit development of a more generalizable training "package."

A third companion document entitled "How to Train Supervisors in Behavior Modification" details step-by-step procedures for conducting a training program.

G. PLACE SUBJECTS IN JOBS

The majority of subjects in Operation Pathfinder were juvenile parolees. The youth were contacted upon being released from the California Youth Authority and requested to accept employment generated by our staff. Those willing to accept employment in the Los Angeles area were therefore "enrolled" in the project.

Disadvantaged adult subjects were not placed on jobs by project staff. Rather, they were given jobs by participating companies whose policies included the hiring of disadvantaged.

H. COUNSEL AND MONITOR SUBJECTS

Since many of the factors contributing to the delinquency of minors are obviously related to off-the-job problems, it was believed that counseling and limited physical and monetary aid would facilitate motivation to acquire and maintain employment. Counseling was principally performed

by our selected parolees trained as counselor aides and secondarily by our senior counselors.

The utility of such counseling and aid was tested by establishing contrasting groups, i.e., one group of juvenile parolees and the group of disadvantaged adults did not receive counseling.

I. COLLECT JOB RETENTION AND LEGAL COMPLIANCE DATA

All subjects in the experiment were monitored directly or indirectly. Data regarding job retention and legal problems were acquired via industrial personnel (supervisors and personnel officers) and parole officers, respectively. For the groups which received counseling, project staff closely monitored and recorded all relevant on-the-job and off-the-job activities.

J. ANALYZE DATA AND REPORT FINDINGS

As noted in Section A above, findings from this study are presented in Chapter VI.

SECTION IV

SELECTION AND TRAINING OF COUNSELOR AIDES

IV. SELECTION AND TRAINING OF COUNSELOR AIDES

A. PURPOSE OF AIDES

The history of counseling individuals with criminal behavior patterns has not been one of great success. At least part of the reason for this has been a general failure of the professional counselor to develop adequate rapport with the deviant. A common attitude among juvenile delinquents, for example, is that the counselors have not experienced their problems, do not really understand them, are not truly concerned, and, therefore, are not likely to do much more than waste their time. It seemed clear, therefore, that the counselors needed for Operation Pathfinder should be drawn from the population of juvenile parolees. It was believed that rapport could be all but assured. Furthermore, since counseling would occur in a variety of places - some known and understood only by parolees or similar individuals - such counselors would seem far more effective than professional counselors in gaining access and "fitting" into the various situations. Thus, a program was initiated whereby individuals would be selected from the available population of parolees and trained as counselor aides.

In general, the work history of parolees is severly limited. Off-the-job problems appear to play a major role in the reluctance to gain employment and in maintaining employment once a job is obtained. The primary purpose of the aides, therefore, was to help resolve as many off-the-job problems as was practicable and to lend encouragement whenever it could be accepted as being meaningful. Social reinforcement was to be administered by way of sincere physical help, as well as by way of simple verbal interactions.

B. SELECTION CRITERIA

The recognized potential influence of counselor aides necessitated a stringent set of criteria for their selection. The following criteria were established:

- Male parolee 20 years of age or older
- Minimum of a high school diploma or its equivalent

- Desire and willingness to supplement their on-the-job training with academic training
- Aspirations toward paraprofessional, if not a professional career in personnel relations
- Possess or capable of possessing a California driver's license
- A resident of Los Angeles county or released in the greater Los Angeles area
- Perseverance and ability to overcome past anti-social behavior
- Willingness to accept direction from others
- Clarity of expression and possession of a verbal ability which permitted the individual to be at ease with persons whose vocabularies ranged from limited to extensive
- Capable of self-analysis, initiative in advancing ideas, and sensitivity toward the attitudes of others.

An additional, overall criterion was the necessity to obtain members of the black, white and Mexican-American communities, corresponding with the sub-groups existing within the experimental population.

C. SCREENING

A three-stage screening process was used for selecting counselor aides. The first stage consisted of (1) presenting the California Youth Authority with our list of selection criteria and requesting that organization to provide the names of all potential candidates, and (2) selecting fifty from that group on the basis of documented information available on each candidate.

The second stage consisted of several independent interviews of each applicant. The interviews assessed employment history, previous delinquent behaviors and attitudes, present attitudes, family conditions, and future goals. Each staff member conducting interviews rated applicants for their sincerity, reliability and general potential as counselor aides. The seven applicants who produced the highest degree of consensus were selected for final screening.

The final screening stage involved a group session in which all seven applicants interacted and role-played under some degree of stress. Each was observed for his capability of handling himself under such conditions.

During the screening process it became apparent that our initially established criteria would have to be moderately traded-off in favor of obtaining a racial/ethnic balance. CYA personnel were unable to interest enough whites and Mexican-Americans to become applicants and those who did show interest were generally not of the caliber necessary to achieve success in the project. Nevertheless, one caucasian and one Mexican-American were ultimately selected, along with two blacks, during the first hiring phase.

D. TRAINING

The first two weeks following the hiring of counselor aides were devoted to orientation to Operation Pathfinder and their roles in the program. Also considerable discussion was centered on factors such as (1) motivation and attitudes, (2) career opportunities, (3) human relations, (4) grooming, (5) attendance and punctuality, (6) cooperation, (7) honesty and integrity, (8) financial stability, and (9) transportation. Subsequently, the aides underwent intensive and continuous training.

An outline of the training program may be found in Appendix B. The following discussions summarize some of the highlights.

1. On-the-Job Training

The aides were placed in job training programs within various local companies in order to familiarize them with the scope of requirements that would ultimately be placed on experimental subjects. During this four-month period, the aides met with a professional counselor for weekly, one-half day feedback and discussion sessions. These sessions also included introductory training in behavior modification.

2. Principles of Behavior Modification

Counselor aides were taught the principles and modes of application of behavior modification techniques. Role-playing and considerable group interactions occurred in order to provide "in-house experience" with the techniques and realistic observations of consequences. To expedite learning,

the professional counselors gave considerable social reinforcements during this and subsequent training sessions. Interestingly, it was found necessary to periodically remind the aides that the professional counselors knew more about counseling than they did. Apparently, the liberal use of social reinforcement tended to convince the aides prematurely that they were fully knowledgeable and capable of handling any contingency. Emphasis was placed on the fact that the more knowledgeable a counselor is, the more he realizes what he does not know. In effect, the proficient counselor is readily aware of his own limitations and proceeds accordingly.

In addition to the above training, the aides were informed of the necessity to collect data related to the applications of social reinforcement and personal counseling, and on-the-job performance and other activities of experimental subjects. The types and methods of collecting data were also discussed in detail.

3. Exercising the Counselor Aide Role

Initially, the counselor aides accompanied a professional counselor on assignments involving interactions with experimental subjects and the collection of data. As the number of subjects increased and as the aides gained increasing confidence in independent counseling more and more responsibility was delegated to them. Within a relatively short time, the aides were carrying full caseloads of experimental subjects.

4. Problems that Developed

The major problems common to all of the aides were transportation, old warrants, and financial debts. For the most part, lack of adequate transportation was directly due to lack of funds. The aides entered the program without funds and they clearly lacked experience in managing credit and the money that they had earned. Therefore, they were in debt initially and the debts continued to grow during the early months of their participation in the project. The senior counselors therefore worked with each aide on budgeting and reducing his debts.

Most of the aides had old warrants (mostly traffic violations) which were overlooked prior to and during their terms in the institution. As a result, they were re-arrested during the first six months of employment on the project. Again, the senior counselors were able to negotiate with the courts and resolve the issue.

The seemingly constant problems of the aides led to our initiation of weekly discussions between them and the company attorney. The aides participated in such discussions enthusiastically and the knowledges gained were subsequently directed toward the legal and monetary problems of the experimental subjects within their caseloads.

E. BRIEF HISTORY OF THE AIDES

1. Aide #1

Aide #1 was one of the first hired and remained for 16 months. He was married and became a father during this period. Following his resignation from the project, he worked as a route salesman for six months and is now working for the state helping other parolees find jobs.

2. Aide #2

Aide #2 was also one of the first hired and remained on the project until the program phased out the aides. He also became married and a father during such employment. This aide developed a unique style working in the courts with parolees and other members of his community and became very well known by the courts and the D.A.'s office. Several months after being phased out of the project, this aide was re-arrested on a questionable grand theft auto charge and is currently awaiting trail. He was attending junior college at the time of his arrest.

3. Aide #3

After hiring aide #3 it became increasingly apparent that he was not seriously interested in the project. His family was upper middle class and did not approve of his acceptance of an apparently menial position as a counselor aide. He resigned after three months and worked as a manager of a grocery store owned by his aunt. He was later re-arrested for possession of stolen property and is currently serving another term in the institution.

4. Aide #4

Aide #4 was one of the first to be hired and the last to be phased out of the project. This aide performed excellently as a counselor and simultaneously attended college. He was the only aide that remained single during the project. He is now working for the state as a job developer.

5. Aide #5

Aide #5 was among the second group hired. He remained in the project for 20 months, until he was phased out. He was very conscientious about his assignments and worked diligently. He was also married during the project. He is presently unemployed.

6. Aide #6

This aide resigned from the project after seven months, due to the extreme distance he had to travel to work. He was an excellent counselor before he resigned and he also became married. He subsequently worked for a rubber company for one year and then quit. His current whereabouts is unknown.

7. Aide #7

This aide was among the second group hired and remained until phased out. He performed excellently during his employment and also participated in supervisory training seminars. He was married and became a father. He is currently employed by the state as a job developer and counselor.

8. Aide #8

Aide #8 was one of the last hired. As with Aide #7, he had a severe distance problem from place of residence to work. However, more importantly he developed a number of personal problems which greatly interfered with his work in the project. He left the program after eight months and accepted a position for an auto parts company. His problems prevailed and he was eventually terminated. He was subsequently re-arrested for theft and forgery and is now serving six months to life in an institution for adults. He was married while employed in the project but is currently negotiating a divorce.

9. Aide #9

This aide was the last hired and remained until phased out, an employment duration of ten months. He also performed excellently and settled down to married life. He is currently working for his family in their trash disposal business.

10. A Final Note

Of the nine aides employed in the program, three were discharged from parole because of their exemplary behavior. Two others expect to be discharged shortly for similar reasons. On the whole, the aides accepted their responsibilities with enthusiasm and performed their duties with considerable skill. Without doubt, their participation greatly enhanced project success.

Finally, even though with training and personal insight into the behavior of themselves and others they persisted to manifest problems not unlike those whom they were attempting to help. Many of their problems stem from the uniqueness of their community environment and from the anti-social pressures of their peers.

SECTION V

JOB DEVELOPMENT

V. JOB DEVELOPMENT

A. COMPANY SELECTION CRITERIA

The effectiveness of OP was clearly dependent on the willingness of companies to accept the entire Pathfinder program. Selection of companies was therefore based on the following criteria:

- The company will hire juvenile ex-offenders and/or hardcore personnel.
- The company will permit their supervisors to attend a training program in the use of behavior modification techniques.
- The company will permit OP staff to conduct job analysis surveys in order to tailor training programs around the jobs available to hardcore personnel.

Since an evaluation of OP's effectiveness required quantitative measurements, an additional criterion was established for company selection, namely:

- The company will permit OP staff to collect personnel data from company records and supervisors.

Other criteria were also important in the selection of companies. For example, analyses of other programs revealed that hardcore personnel tended to quit their jobs sooner than non-hardcore personnel when transportation represented a hardship. Thus, companies whose locations did not permit use of public transportation could not be considered.

Initially, the kind of company sought was one in which experimental subjects could work together in the same immediate area and perform similar duties for the same supervisor. Also, it would have been ideal if other conditions were met, such as the simultaneous hiring of all subjects, equality of pay, and the use of the same criteria for selecting each subject. However, achievement of such conditions was totally impractical.

B. PUBLICIZING PATHFINDER

To expedite OP, considerable publicity was generated in the hope that potential employers would offer job opportunities. Unfortunately, such advertising did little more than generate curiosity. In fact, more than ten television and speech appearances by the project director and his staff resulted in virtually no job offerings. In addition, no responses occurred to seven favorable articles appearing in Los Angeles Newspapers. It was clear, therefore, that emphasis would have to be focused totally on direct contact with heads of business firms and with organizations which were directly or indirectly concerned with job development.

C. INITIAL CONTACTS WITH BUSINESS FIRMS

Initial job placement efforts were beset with major problems. A brief discussion of these problems is presented in the following sub-sections.

1. The Economic Downturn

Unquestionably, the economic recession represented one of the chief obstacles to job placement. During the first year of the project, unemployment in the nation rose from 3.1 percent to 4.5 percent. the rate for blacks, which comprised roughly 50 percent of experimental subjects, rose from 6.4 to 8.2. Since Los Angeles was notably foremost among the areas of highest unemployment (about six percent for whites and 10 percent for blacks), developing appropriate job slots for ex-offender and hardcore populations in direct competition with the already abundant unemployed was no easy matter. The following expressions were typically encountered:

- "Who wants to hire ex-offenders and hardcore people when thousands of skilled workers are standing in unemployment lines?"
- "Hire criminals? Hell, I'm laying off good men who've been with me for twenty years!"
- "Business is too slow now for us to take on any extra cost such as a training program for the disadvantaged."

2. Employer Resistance to Supervisor Training

Some companies refused to take part in OP because they did not want

outside training of their supervisors. Reasons given were usually one or more of the following:

- The company already has a supervisor training program and does not want another.
- The company previously participated in what they view as a similar training program and sees no need to repeat that experience.
- The company is currently working with a large disadvantaged population and sees no need for special training just to hire additional people.
- The company is small and cannot afford to give supervisors time off to attend training workshops.

3. Resistance to Research Involvement

Some companies did not want to participate in a research oriented program. They did not like the idea of offering their facilities for research purposes and they did not want the "interference" of outside people in their affairs.

Perhaps there were deeper reasons underlying such reluctance to engage in behavioral research, though not directly expressed. It has long been known, for example, that many people have a general fear of behavioral research, that somehow it will affect them in some negative sense and/or it will expose their weaknesses. In any event, many companies could conceive of no possible good deriving from participation in a behavioral research project.

4. Resistance to Government Involvement

Some companies indicated no desire to become involved in a government program. In some cases, reasons were based on "general grounds," i.e., essentially no grounds at all. In other cases, economic reasons were given. For example, the manager of one company stated: "We've had bad experiences with other government training programs. There was a lot of red tape and the trouble was not worth the small reimbursement we received."

5. Resistance to Hiring Hardcore People

Perhaps the most important barrier to obtaining jobs for hardcore individuals was the extremely intense reluctance by many employers to hire anyone with a "bad" background, particularly parolees. In fact, regardless of race, religion or ethnic origins, OP's job development staff estimated that about nine out of ten employers stated that they definitely would not hire hardcore people during the current economic slump. This proportion, which we fully recognize is much higher than that typically reported in the literature, was derived from face to face discussions with heads of companies.

D. INROADS

Progress was finally made when emphasis was placed on (1) elucidating the potential benefits of Pathfinder to employers and downplaying its benefits to the nation as a whole, and (2) generating community agency involvement.

1. Emphasizing Benefits to Employers

Although potential employers were always informed of the benefits that could accrue from participating in OP, such benefits were given more attention. The research aspects of the project were de-emphasized and achievement of national goals were relegated to secondary considerations. Thus, some companies responded positively if, in the training of their supervisors, there would occur reductions in such problems as absenteeism, tardiness, poor workmanship, grievances, turnover, waste, and slow production.

A sincere commitment on the part of a company to become fully involved in the project nevertheless represented a difficult challenge. Extensive and frequent contacts with top management were required to secure such a commitment.

2. Community Agency Involvement

Steps were taken to elicit the overall interest of, and acceptance and participation by, community, civic, labor and governmental agencies. Two of these community agencies, "Contact" and the Merchants and Manufacturers Association, joined us in expediting job development activities.

The Contact program is a consolidation of the ex-offender job placement efforts of the four correction agencies operating in the entire Los Angeles County. These agencies include the (1) Department of Corrections (2) Los Angeles County Probation Department (3) California State Department of Youth Authority, and (4) Federal Bureau of Prisons. The Merchants and Manufacturers Association organization maintains a membership of over 2200 prominent business firms and strongly supports Contact by urging its members to provide jobs for Contact clients. Other organizations supporting this effort include (1) Management Council for Merit Employment (Los Angeles Chamber of Commerce), (2) Teamsters Joint Council, (3) Los Angeles Council of Crime and Delinquency, Industrial Council of the City of Commerce, (4) California Department of Human Resources Development, and (5) National Conference of Christians and Jews. Operation Pathfinder staff were appointed, on a no cost basis, to perform the necessary supportive services for the Contact Program.

Meetings were organized in which management, labor, and trade associations were brought together for luncheons or breakfasts for purposes of hearing a presentation by Mentec's President. In this regard appreciation is due the Los Angeles Chamber of Commerce, the Town Hall of Los Angeles, the City of Commerce Business Association, the Merchants and Manufacturers Association, the Los Angeles County Sheriff's Department, and the numerous business management clubs for their response to our presentations.

Finally, a direct appeal to the Metropolitan NAB Director resulted in the Long Beach division of NAB volunteering its cooperation and furnishing names of employers in that city who had pledged jobs.

E. NAB/JOBS CONTRACTS

The processing and approval of JOBS contract proposals by NAB and Department of Labor personnel proved to be a significant pacing factor in program implementation. Delays as long as three months from the time an acceptable proposal was submitted until a signed contract was received were common. These delays had significant program impact because (1) hard-core personnel selected and approved for hire could not be maintained on a "job ready" status for extended periods of time, (2) enthusiasm for program participation on the part of participating companies diminished, and (3) repeated postponement of program implementation by the Mentec staff was necessary.

One company's experience with its JOBS contract proposal exemplified this problem dramatically. Its proposal was submitted with the full expectation of receiving a signed contract within four to six weeks. Five ex-offenders were selected for hire, pending receipt of a signed contract. The five men were without funds, adequate transportation or housing, and were looking forward to their first meaningful work experience and frequently telephoned the Mentec staff to ascertain the status of the contract. Unfortunately, it took over three months to approve the proposal and this delay compounded the already difficult problems these five men were experiencing. Four out of the five men dropped out of sight during this period and all contact with them was lost. The fifth man violated his parole, and was returned to prison. Would an expeditious processing and approval of this proposal have saved these men? We believe it would have.

If this is a common occurrence elsewhere, it appears that effort should be initiated by either NAB or Department of Labor personnel to expedite contract review and approval procedures.

F. RESULTS

During the two years of demonstration, 14 companies participated in the project. It was in those firms that the 200 young parolees and non-parolees were exposed to a variety of jobs, environments, supervisory styles, and encounters which are described in this report.

SECTION VI

EXPERIMENTAL FINDINGS

VI. EXPERIMENTAL FINDINGS

A. INTRODUCTION

A field experiment was performed which evaluated the effects of SR on the behaviors of juvenile parolees and hardcore disadvantaged adults. Data collection occurred during a 24 month period.

The study directed its attention to the effects of Social Reinforcement on the work and social habits of the experimental population. The results are compared with experiences of one primary control group.

The control data discussed herein is that which was identified as being similar to our experimental population i.e., similar in age, job, correctional-institutional experience, and similar in terms of the kind of employer for whom they were working.

We could not, unfortunately, compare the performance of the experimental group with baseline performance data available prior to that group's placement on jobs, because many jobs (69%) were new. For those few jobs which were not new it was believed that graphical presentations or analytical discussions would have questionable value.

Rather, we chose to place the experimental group into five separate subgroups and relate the control variables to their performance.

One experimental group of juvenile parolees received SR by Mentec counselors on-and off-the-job, and by industrial supervisors trained in the theory and application of behavior modification. This group is denoted as "C-S," implying SR by both counselors and supervisors. In this group were those who received the full strategy of social reinforcement technique.

A second experimental group of parolees received SR only by supervisors (Group S). Counseling by Mentec counselors was withheld. Answers were sought to the question: How necessary is supportive counseling to effect change in work-associated behaviors?

A third experimental group of juvenile parolees received SR only by Mentec counselors (Group C). This group was placed under supervisors who had not been trained in the theory and application of behavior modification. This group was to provide insight into the carryover effects of SR to the work place. Perhaps the question - Is it necessary to train the supervisors in SR to effect behavioral change? - could be answered by this group.

A fourth group of juvenile parolees was also placed under supervisors untrained in behavior modification, i.e., not trained by Mentec or exposed to a similar program. This group also did not receive counseling by Operation Pathfinder staff. They were placed in jobs similar to those filled by the

experimental subjects. This group represented the comparative control group (Group CONT).

The control (Group CONT) group as structured satisfied the basis for arriving at the outcomes stated herein.

A final group of subjects was composed of hardcore disadvantaged people who were placed under trained supervisors but who did not receive counseling. This group, denoted as Group H/S, offered answers to the questions, how different are the job behaviors and performance of the parolee to the non-parolee, and are the trained supervisors more effective with the non-parolee than with the parolee?

The composition of the groups enabled a determination of the relative merits of personal counseling, SR by trained supervisors, and a combination of both conditions. It also permitted a comparison to be made between two different populations, juvenile parolees and disadvantaged youngsters, with respect to the effects of SR by supervisors on job retention.

The types of SR given by supervisors were typically complimentary in nature. They systematically and quickly acknowledged improvements shown in employees' behaviors (performance). An example of such types of SR is, "You're really learning this job fast, George. Your productivity and quality of work has been improving every day." If an employee was not performing adequately, a "split" reinforcer (weak negative and strong positive reinforcement) was used rather than a simple threat or reprimand, for example, "You're work has not been very good lately, George. If there's anything I can do to help you, let me know, 'cause that's what I'm here for. Frankly, I think you have a helluva potential." In effect, every effort was to be made by supervisors to acknowledge all company related behaviors in a positive, rewarding manner. Coercive or otherwise negative influences were to be minimized as much as posibile.

In general, the SR's given by counselors were similar to those of supervisors. However, these SR's were primarily directed toward employees' off-the-job behaviors.

For a more thorough discussion of SR and its application in industrial settings, the reader is referred to Appendix A.

B. SUBJECTS

The juvenile parolees numbered 136 and were obtained through California Youth Authority (Preston, Mt. Bullion, and Youth Training School). 72 of these were placed in Group C-S, 44 were placed in Group S, 20 were placed in Group C, and 37 were placed in Group CONT. Group H/S consisted of 64 disadvantaged people. Rationale for using unequal groups included (1) the

desire to emphasize use of the complete Pathfinder program, and (2) the fact that most statistical tests do not require equal numbers of subjects in contrasting groups.

Every attempt was made to randomly distribute the parolees to the various groups as they were released and made available for employment. However, such was not always possible because some parolees refused to participate in the program and some lived too far away from the jobs that were available. Moreover, there was the constraint to match the groups, with respect to race/ethnic origin and age, as closely as practical. It is believed that all of the parolee groups were satisfactory samples drawn from the larger, parent population.

An additional constraint was that it was not possible to place both control and experimental subjects within the same company. Company officials unanimously rejected the procedure of training only a segment of their supervisory staff. Thus, the options were to train all or none of their staff. Again, however, we do not believe that this constraint significantly affected the results, since all jobs were generally of the same skill and salary levels.

C. VARIABLES MEASURED

The groups were compared on variables associated with employment stability and legal compliance. Variables used as indicators of employment stability were: (1) ratio of months employed to total number of months available for work, (2) number of jobs held, and (3) longest period of employment at a single job (also in terms of ratios). Ratios (or proportions) were selected for the first and third variables because subjects' availabilities for the experiment differed and were placed on jobs throughout the 24 month period. Thus, ratios have the effect of normalizing the data.

Other variables of interest were productivity, quality of work, absenteeism and tardiness. Productivity was recorded where a job required the repetitive development or formation of a certain number of identical items per unit time. In such cases, companies establish a production standard, below which an individual is subject to dismissal.

Quality of work was determined by subjective means, i.e., supervisors rated the work of an individual on a ten-point judgment scale ranging from one (excellent) to ten (unacceptable). For the most part, there was no way to measure work quality by purely objective means.

Absenteeism and tardiness were traditionally recorded variables, as was productivity. There was, therefore, no need to institute new data collection instruments for these variables.

Indicators of legal compliance were ratios of the number of individuals (1) arrested and jailed, and (2) returned to CYA to the total number of individuals in a group. The disadvantaged adult group was not included in this evaluation.

Data were collected by direct consultation with supervisors, personnel, staff, counselors and parole agents. In some cases, particularly among the disadvantaged adult subjects, it was not practical to follow-up on the activities of individuals who terminated their jobs.

D. PARTICIPATING COMPANIES AND JOB DESCRIPTIONS

The participating companies were predominately production oriented and provided jobs at the semi-skilled level. However, some occuations were other than production types, such as maintenance and route delivery jobs. The following briefly describes the types of jobs that were made available to subjects.

- A mattress manufacturer providing four different production or assembly jobs: (1) a mattress filler; (2) a mattress closer; (3) a tufter or binder; and (4) a sewing machine operator.
- A utility company providing utility and maintenance jobs.
- A maintenance company providing maintenance, repairs and refurbishing of telephone booths and telephone parts. Jobs available included repairmen and parts shipmen.
- A company involved in four distinctly different products: (1) the finishing or refinishing of damaged furniture; (2) plastic fabrication; (3) production of wire harnesses; and (4) sheet metal assembly. Jobs available were furniture finishers, plastic fabricators and assemblers of wire harnesses and sheet metal.
- A company devoted to the manufacture of plastic pipes. Jobs were pipe production and quality control inspectors.
- An electronic parts manufacturer specializing in the production of printed circuit boards. Jobs were circuit board platers and photo printers.
- A baking company involved with a variety of bread and pastry products. Jobs available were route salesmen engaged primarily in delivery and set-up of products at stores.
- A manufacturer of plumbing parts: plastic pipes and brass pipe fixtures. Jobs were punch and drill press operators, and machinists.

The total number of employees of these companies were estimated at 100, 1800, 25, 100, 500, 250, 400, and 1600, respectively. It should be noted, moreover, that some of the subjects in the control group and in the hardcore group quit their jobs and obtained new jobs at companies of their own choosing.

E. RESULTS

1. Employment Stability

The average ratios of months worked to total months available for work for each group is given in the upper portion of Table 1. It can be seen that all experimental group subjects worked for relatively longer periods of time than did control group subjects. Maintenance of work behavior was particularly evident in Groups C-S and S, both of which retained jobs for slightly better than 90 percent of the time, on the average. Control subjects, on the other hand, only worked an average of 54 percent of the time. The non-paramentric Mann-Whitney U test revealed that differences between all experimental group ratios and control group ratios were highly significant.[1] This test also showed that employment was significantly better for Group C-S than for Group C, suggesting that SR by supervisors and counselors had a greater effect than did SR by counselors alone.

TABLE 1

Mean Proportions of Months Worked
to Total Number of Months Available
for Work

ALL JOBS

PAROLEES				DISADVANTAGED
C - S (N=72)	S (N=44)	C (N=20)	CONT. (N=37)	H/S (N=64)
.906	.907	.799	.538	.813

FIRST JOB ONLY

.814	.835	.753	.446	.813

[1] Summaries of all statistical tests are presented in Appendix C.

Since Groups C-S and S did not differ, it is apparent that the primary and most important factor facilitating employment stability was SR by supervisors.

Because it could be argued that the proportion of time employed may be greater for experimental groups since participation in Operation Pathfinder provided greater opportunity for new employment whenever a subject lost his job, experimental and control groups were therefore compared in terms of number of jobs held and proportion of time employed on first jobs only. With regard to the latter variable, the lower portion of Table 1 shows that this calculation had the effect of reducing somewhat the mean proportions of all groups, excepting Group H/S for which multiple jobs were not observed. Mann-Whitney U Tests again revealed that the same differences between groups were highly significant.

With regard to number of jobs held, Table 2 shows that the experimental groups actually had fewer jobs than did control subjects. Therefore, the data do not support the suggested argument that special treatment within the Pathfinder program may have resulted in more jobs for experimental subjects, biasing the proportion of the total time employed variable.

TABLE 2

Number of Jobs Held Per Group

Number of Jobs	Number of subjects holding specified number of jobs (proportion of group)			
	C-S	S	C	CONT.
1	55 (.76)	38 (.86)	18 (.90)	24 (.65)
2	14 (.19)	3 (.07)	1 (.05)	7 (.19)
3	3 (.04)	2 (.05)	0 (.00)	6 (.16)
4	0 (.00)	1 (.02)	1 (.05)	0 (.00)
Total Jobs	72	44	20	37
Mean number of jobs per subject	1.26	1.22	1.25	1.51

Another factor to be considered in measuring employment stability is the kinds of jobs obtained. It is possible that experimental subjects had greater employment stability because they were employed in jobs offering higher wages, greater opportunities for advancement and more status. A review of the kinds of jobs obtained by all groups and their associated wages revealed that they were quite similarly employed. For example, hourly wages for all groups ranged from $1.65 per hour to $4.17, with a mean of $2.63 for the experimental groups and $2.51 for the control group. This slight difference in average salary (4.7 percent), in favor of the experimental groups, certainly cannot be considered as a significant factor in influencing job retention.

In all groups the higher wages were representative of wages under union contract.

2. Legal Compliance

The second measure of the effectiveness of SR was legal compliance. During the 24 month period, nearly twice the number of control subjects were re-arrested and sent to jail or CYA as did all three experimental groups combined. (a small number of subjects in all groups were also arrested but subsequently released without charge or incarceration.) Table 3 shows that 24.3 percent of the control group consitituted recidivists, while an average of only 3.6 percent of all experimental subjects were lost as a result of recidivism. A Chi Square Test of the differences between control and experimental subjects revealed a high level of significance.

TABLE 3

Number and percent of subjects reverting back to jail or CYA

Group	C-S	S	C	CONT
Number	2	1	2	9
Percent of Group	2.7	2.2	10.0	24.3

Work Quality	% of Standard	% on Time	% Attendance
1	120	100	100
2	115	90	90
3	110	80	80
4	105	70	70
5	100	60	60
6	95	50	50
7	90	40	40
8	85	30	30
9	80	20	20
10	75	10	10

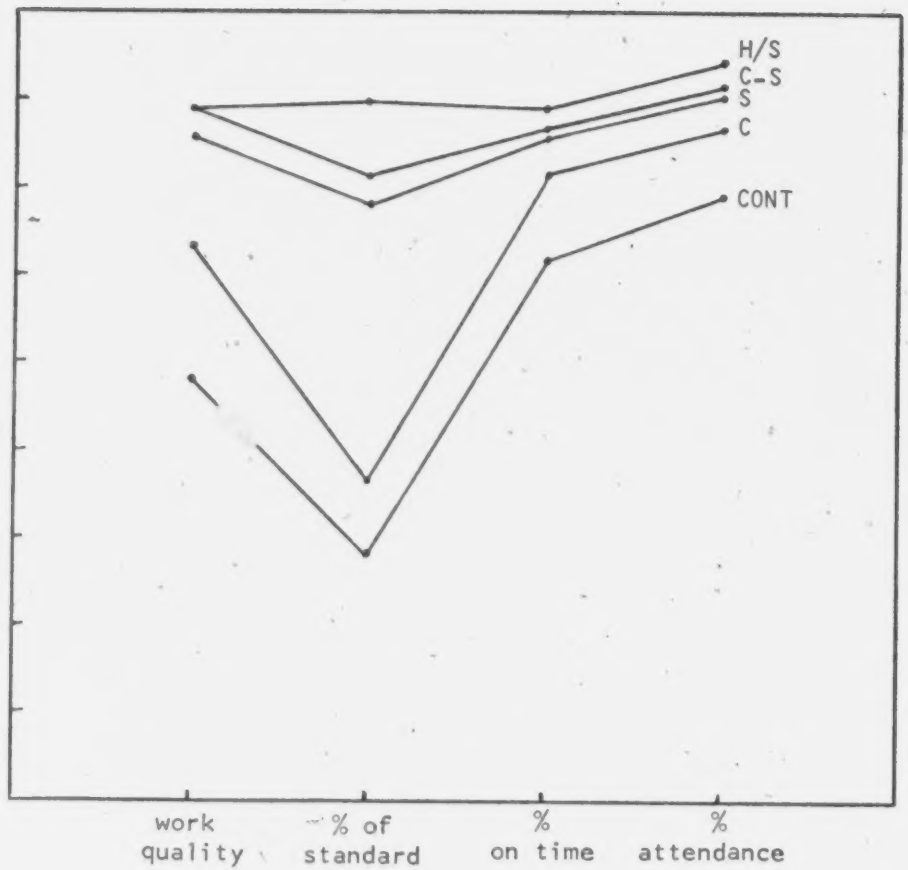

Figure 1. Average group performance on selected variables.

3. Productivity, Work Quality, Absenteeism and Tardiness

Figure 1 shows the average performance of all five groups during the two year period, with respect to productivity, work quality, absenteeism and tardiness. Since all jobs did not lend themselves to a quantitative, objective determination of productivity, the sizes of the groups were somewhat smaller than the total number placed within the groups. Also, the items per unit time measure was transformed to percent production of the company standard in order to normalize all data across different jobs with different standards or required quotas.

It can be seen in Figure 1 that the performance of disadvantaged adults was superior on all measures to the other groups, with the exception of Group C-S. In the latter case, both groups were identical in terms of averaged judged quality of work. Group C-S, in turn, performed slightly better than Group S, and the latter averaged considerably better than Group C and controls. Although control subjects clearly comprised the least effective group, Group C tended to be little different on productivity and work quality relative to the other groups.

4. Microanalysis of SR Effects

As with many behavioral experiments, particularly those performed in the field, it was not possible or practicable to record the specific administration of all SR's by supervisors and their effects. Also, SR's may (and probably) often have delayed rather than immediate effects. Because of these reasons, primary measures are average performances of two or more groups in which one receives no special treatment and the others receive variations of an experimental procedure. Differences between groups are then legitimately attributed to such differential treatment.

Nevertheless, supervisors were given data collection forms and encouraged to record specific SR's that they considered noteworthy and specially administered in connection with specific behaviors of their employees. Figures 2 and 3 are examples of the performances of individual experimental and control subjects and the application of such SR's during the first 30 (training) days on the job. Close examination of these figures suggests that there is a moderate correlation between the application of SR and an immediate resultant improvement in performance. However, the correlation clearly cannot be considered of particular significance with respect to demonstrating the effects of SR. The plotted applications of SR, as noted, were somewhat arbitrary since SR was more or less administered on a daily basis. Of much more importance is the performance difference between experimental and control subjects, not only in overall performance but also in rate of learning or of achieving company work goals.

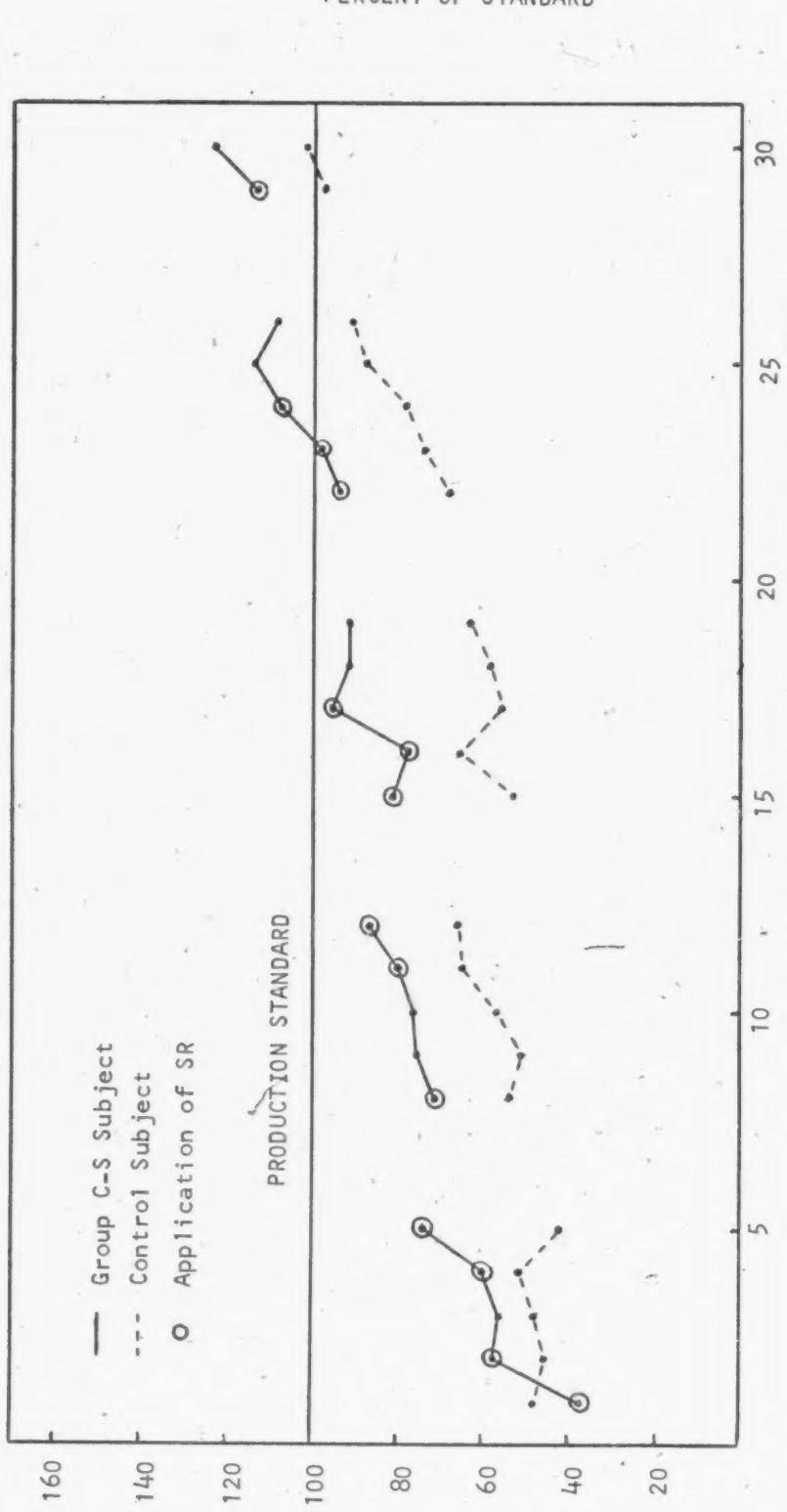

Figure 2. Production performance of a control subject and a Group C-S subject during the first 30 days on the job. (Gaps in the curves represent weekends.)

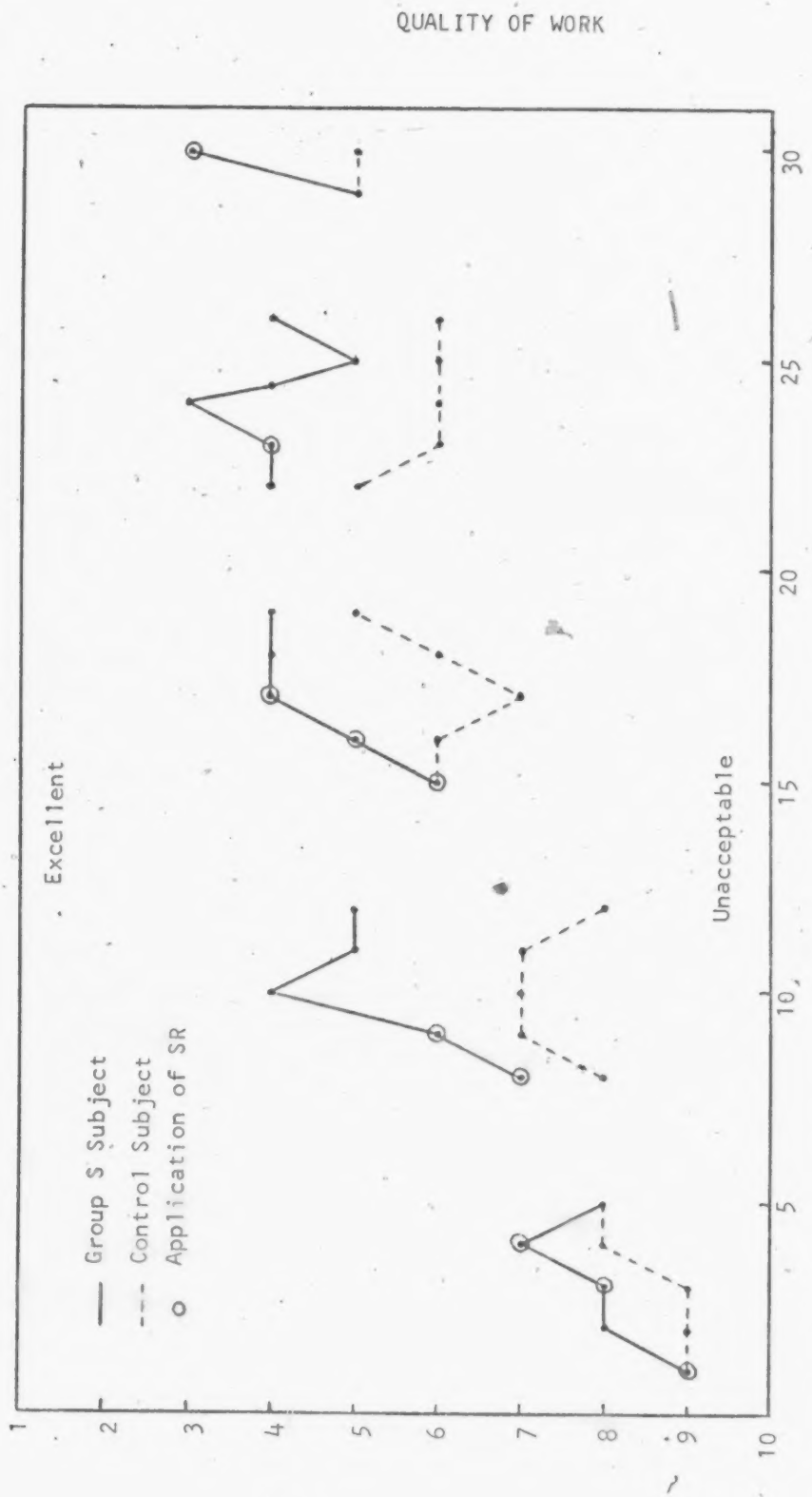

Figure 3. Supervisor judgment of quality of work performed by a Group S subject and a control subject during the first 30 days on the job.

Figures 2 and 3 are generally typical, although there are cases in which the performances of experimental and control subjects tend to be indistinguishable, as would be expected in any behavioral study. Similar plots were not constructed for the variables of absenteeism and tardiness since these are dichotomous variables which do not lend themselves to trend analysis or general graphing.

Revocation of parole is determined by the Parole Board and there was no opportunity on the part of Mentec counselors to influence their decisions. Therefore, the above results suggest that SR applied to experimental subjects was primarily, if not totally, responsible for reducing recidivism.

4. Summary

As of the end of the data collection period, 156 experimental subjects were still employed, 12 as long as 24 months. The 44 subjects (22 percent) which terminated their jobs did so for the following reasons:

	Juveniles	Adults
Return to school	15	0
Left county	0	16
In jail	3	0
Returned to CYA	2	-
Whereabouts unknown	8	0
	28	16

In view of the fact that 53 percent of the lost juveniles was due to decisions to return to school, the actual number of those terminating for undesirable or questionable reasons was actually quite small.

F. DISCUSSION

1. General

The complexities of behavioral experimentation are such that few, if any, experiments can be considered immune from criticism. Moreover,

studies performed in the field generally are more susceptable of error than those performed in the laboratory because they cannot be controlled as well and measurement is often difficult at best. The present experiment is clearly no exception and probably can be criticized on several grounds. Nevertheless, it compares well with many previous field experiments and provides, we believe, findings of no little importance.

The data suggest that SR via supervisors and counselors had indeed influenced the behaviors of the experimental subjects in the direction of greater employment stability, work performance and legal compliance. With respect to legal compliance, experimental subjects showed a much lower percentage of encounters with the law resulting in official adjudication. They are characterized as having fewer arrests and parole revocations than control subjects.

With respect to employment stability, the data do not reflect adequately the actual differences between the groups. The study by design came to a close after a 24 month period, but, of course, the nature of the concept investigated is such that interest is centered primarily on long-term effects. At the end of the study period, 156 (79 percent) of the experimental subjects, in contrast with only eight (22 percent) control subjects, were still employed. Had the data collection period been longer the result might have offered even stronger evidence supporting the use of SR.

2. Extinction

Behavior modification theory is discussed in some detail, albeit somewhat simply, in Appendix A. An important element of the theory is "extinction," the (gradual or rapid) loss of positive behaviors formed as a result of using SR. Certainly, maintenance, and not extinction, of appropriate behaviors was the goal not only of Pathfinder but also of virtually all human learning. The question, then, is how long can appropriate behaviors be expected to last with an essentially "one shot" supervisory training and employee counseling program?

Much of behavior modification theory has been based on animal research. A great many of these studies have involved the training of animals to perform (more or less) irrelevant activities, such as bar-pressing or running through the "correct" leg of a maze. Once rewards are not associated with the performance of these tasks, the trained behaviors tend to extinguish. Such an outcome should not be particularly surprising, however, since it would be difficult to conceive of needs or drives that are satisfied by the performance of these tasks, independent of rewards.

Parolees and other hardcore individuals, by definition, have poor histories of employment and have exhibited behaviors incompatible with typical industrial work environments. Moreover, they expect (and some may even want) to fail at newly acquired jobs. Unlike animal studies' tasks, however, jobs and associated paychecks are not irrelevant, although some may be "distasteful."

A major consideration in the modification of parolee behavior is the critical, relatively short period following the first day of employment. Appropriate use of SR should go far toward diminishing or eliminating the expectation of failure. Also, SR should tend to decrease inclinations toward engaging in activities which result in punishment.

While there is every reason to expect 100 rats to discontinue bar pressing once rewards for such tasks have ceased, the same reasoning seems illogical when applied to 100 parolees associated with SR. That is, there are other rewards associated with jobs, and there are several types of motivations which are diametrically opposed to a desire to be reincarcerated. The use of SR during a critical readjustment period, therefore, would be expected to have lasting effects. Because of unique, complex problems of some parolees, it is likely that a small percentage of parolees receiving SR treatment will revert back to their old habits (or extinguish their new habits). Extinction, then, as theoretically formulated from the result of animal studies (and human studies in which irrelevant tasks are involved) cannot be applied to the present study indiscriminately and without considerable qualification.

The foregoing discussion is not intended to suggest that continuous SR is unnecessary or inconsequential. On the contrary, we consider it to be of critical importance that industrial management encourage the continuance of SR by their supervisors. If supervisors revert back to their previous habits of interacting with employees, the positive effects of SR will likely be reduced considerably. Such would, of course, be in keeping with behavior modification theory.

SECTION VII

CONCLUSIONS

AND

RECOMMENDATIONS

VII. CONCLUSIONS AND RECOMMENDATIONS

A. ON THE VALIDITY AND UTILITY OF BEHAVIOR MODIFICATION THEORY

As noted in Appendix A, behavior modification theory is essentially the systemization of learning principles established as a result of some 60 years of research. In essence, the application of behavior modification techniques is no different from those applied by any member of society who has some degree of power over another member. Thus, for example, a parent shapes a child's behavior (good or bad) by the manner in which he rewards and/or punishes the child. The fact that many children reach adulthood with distorted or inappropriate behavior patterns demonstrates dramatically the negative consequences of misuse of behavior shaping techniques. Behavior modification theory is nothing more than a recognition of the various consequences of the types and magnitudes of power exerted by one individual over another.

Since the principles underlying behavior modification theory are well-established, Operation Pathfinder is not to be construed as a further test of the theory. Rather, the project was an attempt to determine its utility and feasibility as a tool to resolve, at least partially, the problem of permanently transitioning hardcore disadvantaged into the world of employment.

The primary problems of the disadvantaged cannot be solved by jobs alone, as numerous previous studies have shown. The disadvantaged cannot be characterized merely as unemployed, unskilled and poor. For the most part, a person is disadvantaged because he has been trained to be disadvantaged. He is used to being rejected, often told he will fail, and has grown to expect (and sometimes want) failure. It should not be surprising, therefore, that he lacks motivation to gain employment and the behaviors to maintain employment.

The term "trained" should be emphasized. Many of the disadvantaged are second-generation, i.e., they grew up in an environment of welfare, having non-working parents and peers as models. They have learned the way of life of the disadvantaged. And it is up to society to teach them to accept and want a more productive way of life.

Operation Pathfinder was an attempt to retrain behaviors of the disadvantaged and to establish positive motivations to work for a living. A recently published study has shown that the internally instituted use of social reinforcement methodology on typical workers by a large industrial

firm has had outstanding economic and motivational effects (Business Week, 1971). In view of the relatively greater room for improvement existing for disadvantaged people, we would naturally expect a concomitant strong effect of social reinforcement on their performance. Our findings were most satisfying in that regard. Social reinforcement applied by job supervisors resulted in far greater employment stability and legal compliance among juvenile parolees than among a comparative control group. Moreover, employment stability among the disadvantaged adults appears to have been far superior to statistics often published and cited.

B. THE PRIMARY FOCUS OF ATTENTION

The key to job retention and, indeed, performance in general, is supervision, regardless of whether employees are hardcore or "normal" employables. Few people want to work for a supervisor who is insensitive to or cares little about the needs of his subordinates. Moreover, those who continue to work under unrewarding supervision are not likely to be effective members of their organization. Such is dramatically implied in a manager's statement quoted by Ford (1969): "The turnover is bad enough, but what really bothers me is that we have lost so many people who are still with us."

As far as workers are concerned, supervisors comprise the company. Employees work for supervisors rather than for companies. Supervisors, in turn, reward, punish or remain indifferent toward employees, depending on their own particular inclinations. Thus, attention was naturally focused on that group of individuals during the Pathfinder project.

Although behavior modification techniques are relatively simple to understand and apply, there is always the probability that some supervisors will not use them. Such is likely to be the case even with the most profound appeals, and even though the supervisors may indeed believe in the validity of the techniques. Several reasons for this difficulty may be given, but two seem more than sufficient for present purposes. First, supervisors are generally drawn from the rank and file on the basis of job knowledge and seniority. Ability to manage people - the primary responsibility of supervision - is not usually a criterion for selection. Since the personalities of these individuals are little different from employees in general, it is expected that subsets of autocratic, democratic and laissez faire personalities will be found within this group. The authoritarian individual seems to enjoy his position of relative power and accepts it as an end in itself rather than a means to an end - even at the possible expense of productivity among

his subordinates. If this individual is not "shaped" by higher levels of the management hierarchy, there is little likelihood that he will alter his behavioral pattern. Second, some supervisors simply do not like hard-core disadvantaged and may similarly resist using social reinforcement. Therefore, regardless of the degree to which supervisors may understand behavioral techniques and accept their validity, we can expect that a certain percentage will not apply them in the manner prescribed unless management encourages or, more appropriately, enforces their use.

C. RECOMMENDATIONS

1. A Longitudinal Study Using On-the-Job Employees

Currently, behavior modification is receiving a considerable amount of national attention. Much of this attention is due to the extensive publicity given by the communications media to B.F. Skinner, the single most significant contributor to behavior theory. Despite the current publicity, however, behavior modification theory has existed and has been applied successfully (albeit to a limited extent) for many years. The problem has been, to a large extent, a lack of publicity and a concomitant acceptance of its validity. With the advent of one major company's policy to promote use of the technique, we suspect that many others will quickly follow suit. There is some danger in the inevitable "bandwagon," however, in that insufficient planning, training and research may lead to inappropriate applications and confounded results.

It is believed that the careful, systematic use of behavior modification techniques by industry can result in important rewards for both labor and management. However, as with any novel technique or procedure, they should be thoroughly researched before being widely and indiscriminately employed. We therefore recommend that specific research programs be initiated for purposes of obtaining verifying data and expanding upon the findings of Operation Pathfinder. In particular, it is recommended that a full-scale longitudinal study be performed in selected industrial firms, using current employees as subjects. By far the most constraining factor in the present project has been the reluctance of companies to hire hardcore disadvantaged, particularly juvenile parolees. Therefore, a study which accepts on-the-job employees as subjects will be expedited with far greater ease and rapidity.

2. Improving the Rehabilitation Process

It is generally assumed that juvenile parolees have a difficult time finding jobs simply because they are parolees. While this assumption was found to be partially true, the fact is that the majority of youngsters have no employable skills and this tends to influence employers to a greater extent than does the knowledge that the youngsters are parolees. It is easy to say that the institutions must do more to better prepare their wards for employment. Everyone seems to agree. Since roughly 12,000 juveniles are released annually as parolees in California alone, it is clear that this population of individuals is far too large to neglect.

a. Parole Agents. Parole services are grossly inadequte. Although parole agents' jobs are useful and critical, the bridge between the institution and the community is built on a foundation of untenable assumptions, namely that one man can find jobs and places to live, loan money, counsel, mediate disputes between families, and keep track of more than one hundred mobile youngsters. Parole officers need more training, better supervision, more help, and perhaps most importantly, smaller case loads and more respect. Under present conditions, it is doubtful that they ever have significant impacts on many parolees within their caseloads.

b. Parolees as Aides to Agents. Early in the development of OP we reasoned that trained parolees themselves might be more successful as counselors than professional counselors. The performance of our counselor aides was most gratifying and we cannot emphasize too strongly the full-scale use of parolees in this regard. In view of the shortage of parole agents and the value of having peer members as counsels, it would seem to be a natural next step to employ several parolees as aides to each parole agent.

c. College Students as Aides to Agents. Another potential source of aid to the overburdened parole agent is the college population. It is likely that many college students would be anxious to participate in such a program, particularly those within the humanities such as psychology and sociology. We suspect that the experience could be outstanding for law students as well. Incentives for participating in such programs could be modest salaries or college credits (for field work). A mix of parolees and college students might prove uniquely fruitful.

d. Vocational Training in Institutions. It is currently in vogue to refer to penal institutions as rehabilitation centers. However, most of the youngsters leaving the institution are as unskilled as they were upon entering. And being unskilled and unable to acquire a meaningful job is unquestionably a primary factor contributing to criminal behavior. Since the institutions are doing little toward developing skills, they are therefore doing little toward the achievement of successful rehabilitation. One solution is obvious: establish vocational training within the institutions on jobs which are available outside of the institutions, e.g., carpentry, automotive mechanics, machinists, tile and brick layers, etc. A mechanism whereby employers and correctional institutions would work closely together in the placement of "graduates" would seem to be particularly ideal.

3. Job Development

Perhaps first and foremost among the problems of parolees and the disadvantaged in general is the need for employers to offer more jobs. Regardless of the efforts of institutions and the desires of parolees to obtain work, rehabilitation and training will be relatively useless if jobs are unavailable. Most any ex-offender will return to crime if that is the only way that he perceives will offer him something better than a life on welfare. Not only is job placement a humanitarian act, it most certainly has a significant practical side. In the long run, the costs of training and placing an ex-offender would be far outweighed by the costs to the public of recycling him through the police, courts and institutions time and again.

The role OP played in providing special job placement has been largely replicated by Contact, an organization created and held together by a single dedicated person and aided by interested citizens. With minimal funding for support, office space provided by the State Department of Human Resources Development, and the cooperation of such groups as the Southern California Merchants and Manufacturers Association, Contact is demonstrating that it can find jobs even in a period of high unemployment. However, although the efforts of Contact are reaping significant dividends, much more needs to be done to offset the relatively large number of individuals released annually. Research needs to be performed which can encourage more community and industrial involvement and establish a firm, workable link between the institution and employers.

REFERENCES

Ayllon, T. and Azrin, N.H. The Token Economy: A Motivational System for Therapy and Rehabilitation. Appleton-Century-Crofts, New York, 1968.

Business Week. New Tool: 'Reinforcement' for Good Work. Dec. 18, 1971, pp. 76-77.

Ford, R.N. The Obstinate Employee. Psychology Today, November 1969.

Haire, M. Psychology in Management. McGraw-Hill Book Company, Inc., New York, 1956.

Lindsley, O.R. Harvard University Department of Psychiatry Periodic Progress Reports from the Behavioral Research Laboratory, Harvard Medical School, Waltham, Massachusetts, June 1953 - August 1956, 1957.

Mehrabian, A. Tactics of Social Influence. Prentice-Hall, Inc., New York 1970.

Mentec Corporation. Final Report of Mentec Corporation Activities Performed Under NAB Contract No. 6078. Los Angeles, California, January 1969a.

Mentec Corporation. Final Report of the Evaluation of MA-1-67 Program. Los Angeles, California March 1969b.

Mentec Corporation. Final Report of the Evaluation and Test Program. Los Angeles, California, June 1969c.

Mowrer, O.H. Learning Theory and Personality Dynamics. Ronald Press, New York, 1950.

Pavlov, I.P. Conditioned Reflexes. Oxford University Press, London, England, 1927.

Salter, A. Conditioned Reflex Therapy. New York, 1949.

Singer, E.A. Mind as an observable object. J. Phil. Psychol. Sci. Meth., 1911, 8, 180-186.

Skinner, B.F. The Behavior of Organisms: An Experimental Analysis. Appleton-Century-Crofts, New York, 1938.

Skinner, B.F. Science and Human Behavior. Macmillan, New York, 1953.

Thorndike, E.L. Animal intelligence: an experimental study of the associative processes in animals. Psychol. Rev. Monogr. Supp., 1898, 2, 1-16

TIME Magazine. Behavior. August 2, 1971, p. 41.

Watson, J.B. Psychology as the behaviorist views it. Psychol. Rev.,1913, 20, 158-177.

Watson, J.B. and Raynor, R. Conditioned emotional reactions. J. Exper. Psycol., 1920, 3, 1-14.

Wolpe, J. Psychotherapy by Reciprocal Inhibition. Stanford University Press, Palo Alto, 1958.

APPENDIX A

BEHAVIOR MODIFICATION THEORY

APPENDIX A

BEHAVIOR MODIFICATION THEORY

Underlying Operation Pathfinder is the notion of behavior modification, also referred to as behavior therapy, operant conditioning, contingency management, etc. In essence, behavior modification is the systematic application of scientifically established principles of learning. Such principles have been derived chiefly from the school of thought known as Behaviorism, as opposed to those known as Psychoanalysis, Gestalt Psychology, etc. In view of the rather divergent theoretical orientations which have existed and continue to exist, it would appear useful, therefore, to first provide a brief history of events which have led to the development of behavior modification. Subsequent sections will then discuss the content and application of behavior modification theory. Although the reading of this appendix is not essential to a general understanding of Operation Pathfinder, it will provide the interested and relatively lay reader with the rationale underlying the behavior modification technique employed in the project.

A. A BRIEF HISTORY OF PSYCHOLOGICAL STUDY

Although structured psychological formulations can be traced to Aristotle, it was Wundt in Germany who established psychology as an independent, experimental science during the late 1800's. The subject matter of Wundt's psychology (called "structuralism") was immediate experience, composed of sensations and feelings. The method by which immediate experience was studied was introspection, i.e., the relating in detail of one's specific sensations and feelings when confronted with a set of stimuli. While a scientific beginning was made by Wundt and his followers, relatively little was accomplished, primarily because introspection was an extremely limited method of investigating human behavior, and there was little way that an experimentor could verify or measure a subject's "mental" experiences. In effect, it ruled out methods which are commonly used today.

The limitations of structuralism were partially recognized in Europe somewhat later by the development of Gestalt Psychology and, almost simultaneously, the development of Functionalism in America. In general, Gestalt psychology retained most of the philosophy and methodology of Structuralism, but Functionalism represented a true transitionary position between Structuralism and modern Behaviorism. Formation of the Functionalist school of thought was perhaps primarily based on Darwin's work which related environmental changes with the adaptations of organisms. Functionalism defined

psychology, as before, in terms of the methods by which it was studied. Although Functionalism accepted introspection as one valid method, it introduced the important concept of "external observation", i.e., the observation and measurement of non-verbal, as well as verbal, behaviors. Such a definition permitted the stimulation of both animals and humans and the objective measurement of their responses.

Because of the exciting possibilities inherent in the concept of external observation, Functionalism enjoyed only a very brief existence and produced very little additional psychological knowledge. It was quickly supplanted in America by Behaviorism which defined psychology solely in terms of observable behavior.

Although many schools of psychological thought exist today, most are slight variations of Behaviorism. Psychoanalysis is probably the only major and radically different school of thought which has retained some degree of prominence within the scientific community. Gestalt Psychology (now commonly referred to as Neo-Gestalt) is also popular among some psychologists but is relatively unknown to the layman.

B. BEHAVIORISM AND BEHAVIOR MODIFICATION

The pioneering thoughts of philosopher Singer (1911), the laboratory works of Pavlov (see Pavlov, 1927) and Thorndike (1898), and the influence of Functionalism led John Watston (1913) to form the discipline of Behaviorism. Such a decision was probably the most significant in the history of psychology since the study of behavior now used the same methods as those employed in the physical sciences. Psychology at last became a true science, rather than an art.

Behaviorism's early roots were primarily based on the findings of Thorndike (1898) which, among other things, provided a singularly monumental contribution to psychology, namely, the "law of effect." In simple terms, the law of effect states that when a reward follows a specific response to a specific stimulus, that response will tend to be repeated when the stimulus next anpears. Thus, a reward associated with a stimulus-response "connection" results in the learning of that connection. As long as a reward is forthcoming, moreover, the individual need not know of the logic, if any, behind the connection. For example, a witch doctor applies plant root juices to a tribesman's wounds, finds that they heal the wounds rapidly, and continues to use the roots in the future, despite the fact that he has no idea why they or any other substance should be capable of

healing wounds. The witch doctor was rewarded for emitting a specific (and correct) response to a specific stimulus and thus learned a new behavior. This, then, is the mechanism underlying the law of effect.

Learning involves not only the acquisition of new behaviors, but also the elimination of others. When a specific behavior is no longer rewarded, it will tend to disappear over time. The gradual diminution of a behavior is called "extinction." The rate of extinction is affected by a number of factors, a primary one being punishment. That is, when a behavior (stimulus-response connection) is followed by punishment, that behavior will be eliminated rapidly. Again, such phenomena underlie the law of effect.

The development of new behaviors and the elimination of others constitute a process known as "conditioning." Although fundamentally similar, two types of conditioning processes occur in real life: (1) classical conditioning; and (2) operant (or instrumental) conditioning. Classical conditioning, discovered and investigated by Pavlov (1927), occurs less frequently and is inextricably associated with inherent or natural reflexes. For example, Pavlov's early work demonstrated, not too surprisingly, that each time a food substance (stimulus) was placed in a dog's mouth, the dog would automatically and quickly salivate (response). Such a stimulus - response connection is instinctive and, therefore, does not require learning. However, if another stimulus (e.g., a bell) repeatedly occurs with (and immediately precedes) the unconditioned stimulus (food substance), the ringing of that bell will eventually cause the salivation reflex without the occurrence of the food substance. Such a connection (bell-salivation) is new, represents learning, and is subject to the principles associated with the law of effect.

Operant conditioning, discovered and investigated by Skinner (1938, 1953) is more characteristic of everyday learning and, although a gross oversimplification, is akin to "trial and error" learning. Stimulus-response connections are often established by chance, as in the case of the witch doctor. Occasionally, a connection will be established because of an apparent reward. For example, although a tribesman's wounds may have healed without the roots' juices, the witch doctor assumes the healing was entirely due to the juices. He therefore learns an irrelevant (and perhaps subsequently harmful) behavior, often called "superstitious." However, it is more often the case that non-superstitious behaviors are learned as a result of an individual's emitting a specific response (operant) to a stimulus and receiving a reward. For example, a young child is encouraged to urinate in a toilet for the first time, does so, and is subsequently rewarded by his mother with a hug and some excited words

(and perhaps a lollypop). Such a reward, following a stimulus (bladder tension) and a response (urinating in a toilet) connection, initiates new learning. Since the reward is not offered as a result of subsequent urination in the child's diapers, this older connection gradually diminishes in strength and finally disappears altogether (extinguishes).

Human learning, particularly among adolescents and adults, is based more on guidelines of (or teachings by) others than on trial and error. An individual, whether parent, teacher, peer member, etc., wishing to change the behavior of another individual provides certain guidelines for the latter to follow and presents rewards when those guidelines are followed. In essence, the principles of behaviorism are used for purposes of behavior modification - to shape or reshape the behavioral patterns of an individual.

Evidence supporting the validity of behaviorism's principles of behavior modification is prolific. Suffice it here to offer a few notable examples occurring during the last 50 years. Perhaps the most outstanding example during the earliest years of behaviorism was Watson and Raynor's (1920) demonstration of phobia creation and elimination. That is, with the use of the law effect, he showed that not only could he create phobias in children by a single conditioning procedure, but that children who were already phobic could be cured by a straight-forward counter-conditioning procedure. Similarly, Mowrer (1958) devised a conditioning treatment in the 1930's for enuresis (bed wetting) using a bell and an electrically charged pad. This method is still the most effective approach to curing enuresis today.

In the late 1940's, Salter (1949) presented case study evidence showing marked success in the modification of abnormal and classical pathological behavior by conditioning procedures. Somewhat later, Wolpe (1958) developed a counter-conditioning procedure which was adaptable to office treatment of neurotics. Simultaneously, students of Skinner began applying the renowned psychologist's operant conditioning methods to human psychotics. Lindsley (1957), for example, found such conditioning to improve psychotic behavior, and Ayllon and Azrin (1968) were the first to establish a programmed operant environment for an entire population. Interestingly, behavior modification is only recently becoming known to the public at large via non-professional literature (e.g., Time magazine, 1971).

C. BEHAVIOR MODIFICATION AND SOCIAL REINFORCEMENT

The foregoing sections have included general discussions of rewards and punishments without specifying the types of rewards and punishments. Food

to dogs, candy to young children and money to adults are obvious rewards or reinforcements. Since we live in a monetary oriented society, it should be clear that money is a fundamental and necessary reward for the working public. However, it has become increasingly apparent that money alone is insufficient for modifying and maintaining behaviors of juveniles and adults over prolonged periods of time. Haire (1956) noted that:

> .... we don't get production in return for our pay alone. Other things than pay lead to productivity. In the complex organization of a modern industrial plant, the relation between pay and work is very thin and difficult to deal with.

Considerable evidence indicates that incentive plans tied to production rates have caused more problems than they have solved, and that the positive effects of money tend to be short term.

In dealing with industrial problems, Haire (1956) pointed out that:

> All behavior is directed toward the satisfaction of needs, and there are at least three kinds of needs: (1) physical needs; (2) needs whose primary aim is in certain relationships with other people (social needs); and (3) needs whose primary aim is in a certain view of ourselves (egoistic needs).

It is to be noted that the latter two types of needs are not associated with monetary factors, but rather with "people factors", i.e., we satisfy social and egoistic needs by good relationships with other people. Man does not function well in isolation but receives considerable satisfaction when he can associate meaningfully with others. Similarly, man generally desires a personal sense of accomplishment and wants to feel reasonably important. Again, it is through social interactions and rewards that he can attain such goals. Social reinforcement, then, is of no little concern when dealing with human behavior. Although numerous examples could be given, probably everyone is familiar with the often quoted statement: "I can't understand why my kid went bad; we gave him everything." All too often, that "everything" amounted to money and other material things and excluded the satisfaction of needs that only derive from good social interactions and rewards.

E. BEHAVIORAL MODIFICATION IN INDUSTRY

If it were not already apparent, Haire (1956) showed how easily the principles of behavioral modification can be applied by management to subordinates. In most instances, the necessary procedures are simple enough to be applied by the non-professional following a brief training period. Moreover, there is virtually no requirement for laymen to understand complex learning concepts. For example, if a worker were continuously criticized and abused for many months or years, it is likely that he would develop one or more physiological (psychosomatic) problems. In addition, his production and quality of work would likely be at the required minimum level or lower. While one could describe this worker's personality in terms of inferiority complexes, dependencies, unconscious desires, etc., application of behavior modification theory requires only that undesirable and desirable behaviors be specified. This worker behaves inappropriately because he has been trained inappropriately. If one can learn <u>improperly</u> by reinforcement, one can also learn <u>properly</u> by it.

1. Promoting a Desire for Change

Man's inherent ability to change his behavior and to influence the behavior of others is a most important tool for adapting to (often changing) life situations. Such a tool is of importance in all aspects of life and particularly important in the work environment. If one is unwilling to realize his potential for change and to exercise it, he is likely to experience numerous instances of frustration and failure.

Mehrabian (1970) touched upon an important characteristic of human behavior when he noted that there is a kind of inertia associated with behavior which makes change difficult and distressing. It is less difficult to behave according to habits previously formed than it is to change, even though such behaviors may be unsatisfactory and even troublesome to others and oneself.

Unwillingness to change is also due, in part, to the fact that when an individual <u>does</u> attempt to arrive at a new solution to an old problem, failure is often the result. He finds himself, then, reverting to his old behaviors. In other words, failure to find workable and better solutions can cause the perpetuation of inappropriate or inadequate behaviors, in some cases, total inactivity.

Knowing that people have "natural" inclinations to resist change, it is particularly important, when applying behavior modification techniques,

to provide a social environment that will lessen the distress of change as much as possible. People are more apt to change their behaviors if they clearly know what changes are required and if they perceive meaningful rewards associated with such changes.

2. Communicating Desired Changes

The term "communication" is perhaps an over-used word and its meaning is sometimes ambiguous. Stated simply, communication is the transmission and reception of a message. If the transmission and/or reception of the message is inaccurate or garbled, obviously the communication will be inaccurate. It is not enough, therefore, for management to know what changes are desired with respect to subordinates' behaviors; such changes must be transmitted to, and understood by, subordinates. This implies two-way communication, in contrast with, for example, the communication of a supervisor who gives an order to a subordinate and does not request a reply other than "yes sir" or some similar acknowledgement. The latter case is essentially one-way communication and the supervisor does not know for sure whether the subordinate thoroughly understands the message.

To be appropriate for the desired change, the communicator must be sensitive to the listener, i.e., how will the listener perceive the message? Is the message understandable? Answers to such questions may be acquired by two-way communication - by seeking feedback from the listener.

3. Social Reinforcement

The above two sections have discussed the concepts of change and communication. In order to apply behavior modification techniques effectively, we must first understand the natural "barriers" presented by people and the value of good two-way communication. In effect, these factors represent the foundation of behavior modification application, although they are not an inherent part of behavior theory per se.

Modifying behavior in industry (and elsewhere) requires systematic and selective use of rewards or reinforcements. A basic reward to an employee is retention of his job. Other kinds of rewards are (1) increases in pay, (2) job promotions, (3) recognition by employers and fellow workers for performing good work and being a "nice person", and (4) improved working conditions, such as a private office with all the niceties and symbols of success. As noted earlier, given reasonable salaries and benefits,

employees are more influenced by social reinforcements than by additional monetary incentives. This is indeed fortunate because not only is social reinforcement "cheap," it can be readily understood and used by all levels of management. Appropriate use can lead to the effective shaping or reshaping of a worker's behavior - to provide that worker with work habits and attitudes that satisfy both him and management. It should also be clear that the same is true for varying levels of the management hierarchy, i.e., members of top levels of management can more effectively shape the behaviors of those at lower levels.

4. The Shaping Process

Shaping the behaviors of others by operant conditioning procedures was discovered and thoroughly investigated by Skinner (1953). The shaping process involves the systematic use of a series of reinforcements, all of which may be indentical in nature but appear at different points in time. To illustrate, suppose it is desired that an employee's work situation be kept neater. Should his supervisor wait until he has cleaned his work station to the supervisor's satisfaction and then reinforce him (by telling him that he is pleased), or should he attempt to initiate the change by indicating a new cleanliness standard. Experimental findings suggest the former technique whenever possible, i.e., it appears most expedient and practical to proceed through a series of steps, positively reinforcing those behaviors emitted by the worker which more and more approximate the desired behavior. To put it another way, the supervisor should reinforce the worker's "good mistakes." Thus, any behavior which results in a slightly more tidy work station than was previously the case would be reinforced, but behaviors that are at his characteristic level of untidiness or lower would be ignored.

The operant shaping process sometimes requires a relatively lengthy time because a behavior to be reinforced must be emitted (voluntarily presented) rather than elicited (involuntarily demanded). However, for most cases such time periods are not excessive in an absolute sense and the consequences of rewarding a voluntarily presented behavior can be quite outstanding and lasting. In effect, a supervisor is not telling a worker what to do, but rather reinforces him when he does it voluntarily. Implications of this procedure should be apparent; among other things, it encourages creativity and independence and it provides for a more comfortable working environment.

No single method can be indiscriminately applied, however. There will be cases when it will be necessary to effect a change more quickly. Understanding of and sensitivity to, a worker's problems, effective communication, and liberal social (and sometimes other) reinforcements are particularly important in such instances. Also, the use of "split" reinforcers can be quite effective, i.e., the joint use of negative and positive reinforcements. For example, a supervisor tells a worker that his behavior is resulting in too many defective parts, asks him to inspect his work more carefully, and simultaneously gives him a friendly smile and perhaps a pat on the back. The negative aspects of this interaction are therefore, counter-balanced somewhat by those that are positive. Experimental findings indicate that positive facial and other physical gestures, intonation of speech, etc., can completely override negative connotations of a message so that the overall effect is one of positive reinforcement.

The shaping process can be facilitated by the use of certain "aids" already existing in the industrial setting. One such aid comes under the heading of "modeling."

5. Modeling

In a new and ambiguous situation, where a worker does not know how to act and does not know all of the behaviors expected of him, the worker often relies on his perceptions of others around him. He tends to imitate them, especially if he sees that they are reinforced for their particular behaviors. Such a phenomenon is called "modeling." It is most effective, not so surprisingly, when a new worker is placed in an environment having one or more ideal or near ideal, experienced workers. Since such workers perform at or above company "standards," they are likely targets for meaningful reinforcements and thus represent excellent models. One might refer to the use of models as a subtle way of eliciting a behavior. In actuality, however, it is simply an aid to facilitating the emitting of a desired behavior more rapidly.

6. A Qualification

Although the validity and utility of behavior modification techniques are supported by a large body of evidence, it should not be expected that the behaviors of all workers will be equally manipulable. Moreover, it should not be expected that all workers will be significantly affected by the application of such techniques. A subset of almost any sample of

individuals generally has unique problems which may require more time to resolve than management can tolerate or afford. Failure of behavior modification techniques to effect desired changes within a highly constraining time period should not be construed as an indicant of invalidity. As noted in a previous section, those techniques have shown remarkable success with some of the most difficult problem behaviors, namely, psychotics. Consider, for example, the psychotic who neither moves, talks, listens (apparently) or reacts in any significant way. Behavioral techniques have greatly improved such psychotics - but it took time. However, for most applications behavior techniques require only nominal periods of time.

APPENDIX B

TRAINING PROGRAM

APPENDIX B

TRAINING PROGRAM

A. INTRODUCTION

The program will be composed of four quarters consisting of ten weekly sessions, one session a week for four hours per session. Each quarter, while in itself a complete entity, is designed to set a foundation for the succeeding quarter. This is likewise true in the sequence of material within any given quarter.

This document is to serve as a general outline of the full course, and will be complimented monthly with the individual lesson plans and whatever materials will be needed within that month.

Any further questions regarding the procedural aspects of the training program will be dealt with in more detail in the outline entitled, "Rules and Procedures."

B. CONTENT OUTLINE

FIRST QUARTER: General Introduction

I. Historical background - General counseling theory

A. Lecture - Discussion

1. Fundamental assumptions upon which counseling, as a formal field, developed

2. General background of different thoughts in the field of counseling

B. Literature - Discussion

(NOTE) Though the nature of this material is academic, we caution against too much emphasis on the academic issues

II. Entry into industrial counseling

A. Lecture-Discussion

1. When and how did the field of counseling enter the private sector

2. What were some of the experiments conducted in the early stages

B. Literature - Discussion

III. Current modalities

A. Lecture - Discussion

1. What are the various uses of counseling

2. Where are counselors used and in what capacity

B. Methods practice

1. Field visitations to various locations where counseling is used

2. Individual notebooks developed documenting the different locations and uses of counseling

SECOND QUARTER: Behavior Modification

I. Behavior modification history

A. Lecture - Discussion

1. When and how did behavior modification start, as opposed to other kinds of counseling, in a formalized way

2. What were some of the original experiments leading to the popularity of behavior modification

B. Literature - Discussion - Emphasis on research experiments

NOTE: When "lecture" or "literature" is used, it is understood that individual lesson plans will delineate the particulars.

II. Present status, in the private sector, of behavior modification

A. Lecture - Discussion

1. How does industry use behavior modification

2. What have been examples of the success or failure of behavior modification in the private sector

B. Films - Tapes

C. Methods practice

1. Field visitations

2. Role-playing real examples in the private sector

III. Social reinforcement within various social industrial systems

A. Lecture - Discussion

1. Systems analysis

2. Development of a system of social reinforcement within a given industrial setting

B. Films - Tapes

C. Methods practice

1. Field visitations

2. Case conferences

3. Role-playing

NOTE: The Third and Fourth quarter will utilize all available techniques to communicate the material

SECOND QUARTER: Implementation of a social reinforcement system within the Pathfinder setting

I. Methods of implementation

A. Development of social reinforcement schedules

B. Practice in work behavior analysis (observation techniques)

C. Communication techniques of "schedules" to supervisors and E1 trainees

D. Monitoring techniques - revisions methods - of individual schedules

II. Counseling practices with reinforcements systems - utilizing Pathfinder caseload

FOURTH QUARTER: Field Practicum - Sessions will revolve completely around Pathfinder setting and Pathfinder caseloads

I. Documentation of each Pathfinder setting

II. Description and analysis of each E1 personal reinforcement schedule

III. Presentation of Counselor-aide "cases" to consultant panel

IV. Staff evaluation of certification

C. RULES AND PROCEDURES

I. Statement of Purpose(s)

To train counselors and counselor-aides in the principles and practices of behavior modification techniques and the implementation of a social reinforcement system as applied to industrial settings.

To give a brief introductory background in the general field of counseling.

II. Membership

Counselors and counselor-aides to be trained at their appropriate professional levels.

III. Procedures

A. Records

Records will be kept on all activities in the training program.

Records will likewise be kept on curriculum following this format:

1. General course outline of rules and procedures
2. General course outline of program content
3. Individual lesson plans submitted to the Project Director monthly discussing:
   a. All issues studies that month
   b. Materials needed
   c. Consultation needed
   d. Any deviation from program content

B. Disbursement of material and time allocations
Assignments of required and suggested material will be given to all involved a week in advance, along with a pre-designed outline of the important issues in the lesson.

Wednesday afternoons will be set aside, between the hours of 1 p.m. and 5:30 p.m. for a training session. This session may be in the form of a lecture, seminar-workshop, field trip, or individual research. All reading and personal research will be done on one's own time.

C. Evaluation

1. Tests will be given at the end of each quarter. The test results are to be used for the trainee's benefit and not for grading purposes.

2. Each trainee will be required to develop a notebook which will be checked at the end of each quarter.

3. An evaluation with the assistance of research will be developed to measure work performance when pertinent to the material in the training program.

4. Development of a certificate to be granted at the end of the fourth quarter by a counsultant panel, based on an interview (conducted in the form of a case conference) touching on all components of the training program. The certificate will be given by the Mentec Corporation and will hopefully have some ceremoney connected with it. The certificate will state that the holder has completed a training course given by the Mentec Corporation in Behavior Modification and the Implementation of a Social Reinforcement System.

D. Rules

1. Mandatory attendance at a minimum of three-fourths of the sessions

2. Completion of all assignments

3. Development of a notebook covering all material

NOTE: Failure to comply to the above rules will affect pay increments and the granting of the certificate of completion. The consultant panel will have a copy of all relevant data.

IV. Building Resources

A. Internal

1. Development of library
2. Films and tapes
3. Case conferences
4. Methods practice concurrent with Pathfinder setting
   a. Field experience
   b. Role-playing

B. External consultation

1. Academic
2. Industrial
3. Institutional
4. Community

V. Length of Program

Twelve consecutive months, four hours weekly (own time devoted to study).

VI. Staff Organization

A. Coordinator	To be designated
B. Staff Counselor	(as teachers and students)

C. Counselor-aides (students)

D. Mentec Staff (general)

E. To be designated (general)

F. Research (evaluations)

VII. Staff Functions

A. To communicate an expertise if a part of the program

B. Assist in fostering program

C. Assist in coordination of time schedules

D. Assist in making contacts, when relevant, known

VIII. Extra Mural Resources

Contingent upon individual lessons and availability of locations.

APPENDIX C

SUMMARY OF STATISTICAL TESTS

TABLE C-1

Summary Table of Mann-Whitney
U Test Z Scores of Differences
Between Groups with Respect to
Percent Time Holding a Job
(Multiple Jobs Included)

	C+S	S	C	S/H	CONT.
C+S		N.S.	2.4*	N.S.	5.7***
S			N.S.	N.S.	5.1***
C				N.S.	2.9**
S/H					5.5***
CONT.					

N.S. = Not Significant

*$p < .01$

**$p < .001$

***$p < .0001$

TABLE C-2

Summary Table of Mann-Whitney
U Test Z Scores of Differences
Between Groups with Respect to
Percent Time Holding a Job
(Multiple Jobs Excluded)

	C+S	S	C	CONT.
C+S		N.S.	N.S.	4.9***
S			N.S.	4.6***
C				2.9**
CONT.				

N.S. = Not Significant

**p < .001

***p < .0001

NOTE: Group H/S not included because none had more than one job.

TABLE C-3

χ^2 Test of Differences
Between Groups with
Respect to Number of Jobs

	All experimental Subjects*	Control Subjects
One Job	111	24
Multiple Jobs	25	13

* Excluding group H/S

$\chi^2 = 4.83$ ($p < .05$, $df=1$)

TABLE C-4

χ^2 Test of Differences
Between Groups with
Respect to Recidivism

	All experimental Subjects*	Control Subjects
non-recidivists	136	37
recidivists	5	9

$\chi^2 = 13.05$ ($p < .001$, $df=1$)